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Government  
Publications

29th.  
ANNUAL  
CONFERENCE  
PROVINCIAL  
MINISTERS  
OF MINES

CHATEAU LACOMBE  
EDMONTON, ALBERTA

September 10-13, 1972



Alberta







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# PROCEEDINGS

Twenty-Ninth Annual Conference

of the

Provincial Ministers of Mines

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SEPTEMBER 10-13, 1972

CHATEAU LACOMBE

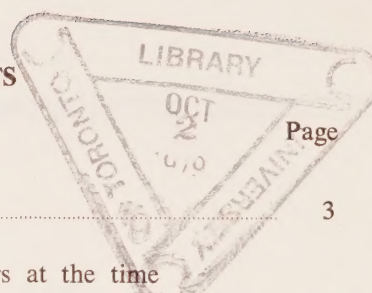
Edmonton, Alberta

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*Chairman of the Conference*  
**HONOURABLE BILL DICKIE, Q.C.**

*Minister of Mines and Minerals*  
**PROVINCE OF ALBERTA**

## TABLE OF CONTENTS



	Page
Dates and Places of the Annual Conferences of the Provincial Ministers of Mines .....	3
Provincial Ministers of Mines and Deputy Ministers at the time of the Twenty-Ninth Annual Conference of the Ministers of Mines .....	4
Group Picture .....	5
Program .....	6
List of Delegates Registered at the Provincial Ministers of Mines Conference .....	9
List of Ladies Present .....	15
Opening Plenary Session — Provincial Ministers of Mines Conference .....	17
Address of Honourable Bill Dickie, Q.C. ....	17
Address of Honourable Donald S. Macdonald .....	17
Address of Mr. Franklin K. Spragins .....	23
Address of Dr. Wallace R. Horn .....	25
Committee Reports, Recommendations and Response By The Ministers .....	28
No. 1 Mining Operations .....	29
No. 2 Exploration and Development .....	29
No. 3 Royalties, Taxation and Tariffs .....	31
No. 4 Mining and the Environment .....	40
No. 5 Petroleum and Natural Gas .....	41
No. 6 Education and Manpower .....	42
Closing Plenary Session .....	44
Agenda for Future Conferences .....	45
Chairman's News Release —	
Working Session Resolutions and Recommendations .....	46
Brief presented to the Prime Minister of Canada with respect to certain recommendations arising from the Twenty-Ninth Annual Conference of the Provincial Ministers of Mines .....	47



DATES AND PLACES  
OF THE  
ANNUAL CONFERENCES  
OF THE  
PROVINCIAL MINISTERS OF MINES

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CONFERENCE		DATE	PLACE
First	1945	April 14-16	Quebec, P.Q.
Second	1945	November 22-23	Toronto, Ontario
Third	1946	September 23-27	Winnipeg, Manitoba
Fourth	1947	September 3-5	Keltic Lodge, Nova Scotia
Fifth	1948	September 2-4	Jasper, Alberta
Sixth	1949	September 7-10	Fredericton, New Brunswick
Seventh	1950	September 13-16	Victoria, British Columbia
Eighth	1951	September 4-8	Saskatoon, Saskatchewan
Ninth	1952	September 15-17	Quebec, P.Q.
Tenth	1953	September 16-18	Niagara Falls, Ontario
Eleventh	1954	September 20-22	Winnipeg, Manitoba
Twelfth	1955	September 12-24	Keltic Lodge, Nova Scotia
Thirteenth	1956	September 10-12	Lake Louise, Alberta
Fourteenth	1957	September 4-6	Vancouver, British Columbia
Fifteenth	1958	September 3-5	St. Andrews, New Brunswick
Sixteenth	1959	September 14-16	Regina, Saskatchewan
Seventeenth	1960	October 16-19	Quebec, P.Q.
Eighteenth	1961	September 17-20	Toronto, Ontario
Nineteenth	1962	September 16-18	Winnipeg, Manitoba
Twentieth	1963	September 15-18	Halifax, Nova Scotia
Twenty-first	1964	September 6-9	Banff, Alberta
Twenty-second	1965	September 12-15	Victoria, British Columbia
Twenty-third	1966	September 18-21	Saint John, New Brunswick
Twenty-fourth	1967	September 17-20	Regina, Saskatchewan
Twenty-fifth	1968	September 15-18	Quebec City, P.Q.
Twenty-sixth	1969	September 14-17	Toronto, Ontario
Twenty-seventh	1970	September 7-10	Winnipeg, Manitoba
Twenty-eighth	1971	September 12-15	Halifax, Nova Scotia
Twenty-ninth	1972	September 10-13	Edmonton, Alberta

PROVINCIAL MINISTERS OF MINES AND DEPUTY MINISTERS  
AT THE TIME OF THE TWENTY-NINTH ANNUAL  
CONFERENCE OF THE MINISTERS OF MINES

---

**MINISTERS**

Honourable C. William Doody	Minister of Mines, Agriculture and Resources, Newfoundland and Labrador.
Honourable Glen M. Bagnell	Minister of Mines, Nova Scotia.
Honourable John H. Maloney	Minister of Industry and Commerce, Prince Edward Island.
Honourable A. Edison Stairs	Minister of Natural Resources, New Brunswick.
Honourable J.-Gilles Massé	Minister of Natural Resources, Quebec.
Honourable Leo Bernier	Minister of Natural Resources, Ontario.
Honourable Sidney Green	Minister of Mines, Resources and Environmental Management, Manitoba.
Honourable Kim Thorson	Minister of Mineral Resources, Saskatchewan.
Honourable Bill Dickie	Minister of Mines and Minerals, Alberta.
Honourable Frank Richter	Minister of Mines and Petroleum Resources, British Columbia.

**DEPUTY MINISTERS**

Mr. F. Gover	Newfoundland and Labrador
Dr. J. P. Nowlan	Nova Scotia
Mr. D. E. Morrison	Prince Edward Island
Mr. R. L. Bishop	New Brunswick
Mr. J.-G. Fredette	Quebec
Mr. W. Q. Macnee	Ontario
Mr. R. A. Wallace	Manitoba
Mr. J. G. Wotherspoon	Saskatchewan
Mr. H. H. Somerville	Alberta
Dr. J. T. Fyles	British Columbia



**PROVINCIAL MINISTERS OF MINES**  
**29th ANNUAL CONFERENCE — EDMONTON, 1972**



Seated (Left to Right): Hon. J-Gilles Massé, Quebec; Hon. A. Edison Stairs, New Brunswick; Hon. Glen M. Bagnell, Nova Scotia; Hon. Bill Dickie, Alberta; Hon. Leo Bernier, Ontario; Hon. Sidney Green, Manitoba.

Standing (Left to Right): J.-G. Fredette, Quebec; Dr. J. P. Nowlan, Nova Scotia; J. G. Wotherspoon, Saskatchewan; D. P. Douglass, Ontario; Dr. J. T. Fyles, British Columbia; H. H. Somerville, Alberta; R. L. Bishop, New Brunswick; G. A. Jewett, Ontario; M. J. Gobert, Manitoba; F. Gover, Newfoundland and Labrador.



## PROGRAM

### SUNDAY, SEPTEMBER 10th

- 9:00 a.m. to  
9:00 p.m. REGISTRATION  
10:00 a.m. AD HOC COMMITTEE ON  
MINING LEGISLATION  
Alberta "A" Room  
2:00 p.m., VISIT TO PROVINCIAL MUSEUM  
3:00 p.m. AND ARCHIVES  
and 4:00 p.m. Ladies and Gentlemen will leave  
Chateau by bus at times indicated  
at left  
Courtesy—**The Coal Association  
of Canada**  
3:00 p.m. SUB-COMMITTEE ON  
MINERAL STATISTICS  
Klondike "A" Room  
9:00 p.m. COFFEE PARTY—ALBERTA ROOMS  
Ladies and Gentlemen  
Courtesy—**Hudson's Bay Oil and  
Gas Company Limited**

### MONDAY, SEPTEMBER 11th

- 8:00 a.m. MINISTERS' BREAKFAST MEETING  
—ROYAL SUITE  
DEPUTY MINISTERS' BREAKFAST  
MEETING—STRATHCONA ROOM  
9:00 a.m. to  
5:00 p.m. REGISTRATION  
9:00 a.m. MEETING OF MINISTERS  
AND DEPUTIES—ROYAL SUITE  
10:30 a.m. OPENING PLENARY SESSION—  
ALBERTA ROOMS  
**The Honourable Bill Dickie**—Chairman  
ADDRESS OF WELCOME  
**The Honourable Donald S. Macdonald**  
Minister of Energy, Mines and  
Resources  
"RESOURCES FOR  
DEVELOPMENT"  
**Mr. Franklin K. Spragins**  
President, Syncrude Canada, Ltd.  
"THE TAR SANDS—  
CANADA'S ECONOMIC  
INSURANCE"  
**Dr. Wallace R. Horn**  
Research Co-ordinator,  
Mining Association of Canada  
"THE MINING ASSOCIATION  
OF CANADA AND THE  
ENVIRONMENT"  
2:00 p.m. to COMMITTEE MEETINGS  
5:00 p.m. No. 1—Mining Operations  
—McDougall Room

- No. 2—Exploration and Development  
—Klondike "A" Room  
No. 3—Royalties, Taxation and Tariffs  
—Klondike "B" Room  
No. 4—Mining and the Environment  
—Alberta "B" Room  
No. 5—Oil and Gas—Alberta "A" Room  
No. 6—Education —Strathcona Room  
5:00 p.m. MINISTERS AND DEPUTIES  
MEETING—ROYAL SUITE  
6:15 p.m. to RECEPTION—ALBERTA ROOMS  
7:00 p.m. Courtesy—**Alberta Division,  
Canadian Petroleum  
Association**  
7:15 p.m. CONFERENCE DINNER—  
ALBERTA ROOMS  
Courtesy—**Province of Alberta**  
GUEST SPEAKER—  
**Charles Lynch**  
Chief of Southam News  
Services

### TUESDAY, SEPTEMBER 12th

- 9:00 a.m. COMMITTEE MEETINGS CONTINUE  
Note: If necessary Committee No. 1  
may join Committee No. 4 in  
Alberta "B" Room for joint meet-  
ing and Klondike "A" and "B"  
Rooms may be opened for joint  
meeting of Committees No. 2 and  
No. 3.  
3:00 p.m. OFFICIAL OPENING OF THE  
PETROLEUM INDUSTRY TRAINING  
SERVICE WELL CONTROL CENTRE  
Note: Buses will be leaving the  
Chateau promptly at 2:00 p.m.  
Courtesy—**Petroleum Industry  
Training Service**  
6:15 p.m. to RECEPTION—ALBERTA ROOMS  
7:00 p.m. Courtesy—**Independent Petroleum  
Association of Canada**  
7:15 p.m. DINNER MEETING OF  
MINISTERS AND DEPUTIES—  
ROYAL SUITE

### WEDNESDAY, SEPTEMBER 13th

- 9:00 a.m. MEETING OF MINISTERS  
AND DEPUTIES—ROYAL SUITE  
10:30 a.m. CLOSING PLENARY SESSION—  
ALBERTA ROOMS

## COMMITTEES AND AGENDA

### COMMITTEE No. 1—Mining Operations

- A. Resume of New Legislation and Regulations.
- B. Non-Destructive Testing of Mine Hoist Ropes.  
(Industry Representatives)
- C. Report of Chief Inspectors' Sub-Committee.
- D. Noise Control in Mining Operations.
- E. Review of Diesel Equipment Underground.
- F. Laws with Regard to Entrance to Mine Property  
under the Influence of Drugs.

### COMMITTEE No. 2—Exploration and Development

- A. Resume of New Legislation and Regulations.
- B. Report of ad hoc Committee on Mining  
Legislation.
- C. New Geophysical Techniques—Continuing Report  
on High Sensitivity Surveys.
- D. Report of Canadian Centre for Geoscience Data—  
Utilization of Computers.
- E. Report on Joint Federal-Provincial Airborne  
Surveys.
- F. Tax Change Effect on Exploration—Continuing  
Study.

### COMMITTEE No. 3—Royalties, Taxation & Tariffs

- A. Resume of New Legislation and Regulations.
- B. Review of Federal Income Tax Act and Its  
Effects on Mineral Development and Exploration.
- C. Incentives to Industry Through Tax Exemptions or  
Otherwise on Costs for Pollution Control and  
Treatment.
- D. Report of Sub-Committee on Mineral Statistics.
- E. Report of Task Force on Mineral Valuation.

### COMMITTEE No. 4—Mining and the Environment

- A. Resume of New Legislation and Regulations.
- B. Review of Compatability of Mine and Mill Water Dis-  
posal Regulations with Provincial and Federal Pol-  
lution Control Demands.
- C. Public Relations with Regard to Antipollution Efforts.
- D. Report on the Stockholm Conference on the Environ-  
ment by Dr. E. F. Roots.
- E. Air Pollution.
- F. Mine Waste Embankments. (Possibly Joint with Com-  
mittee No. 1.)
- G. Report by Mining Institute for Co-ordination of In-  
formation in Environmental Protection and Research.

### COMMITTEE No. 5—Oil and Gas

- A. Resume of New Legislation and Regulations.
- B. Report of Agenda Committee.
- C. Consideration of Report on:
  - 1. Review of Model Unit Agreements.
  - 2. Annual Statistical Review.
  - 3. Offshore Oil and Gas Operations.
  - 4. Compilation of Emergency Personnel and Equip-  
ment for Control of Blowouts and Rig Fire.
  - 5. Review of Existing Oil Spill Contingency Plans.
  - 6. Compilation of Index of Canadian Research Re-  
ports on Drilling and Production Problems.
  - 7. Uniformity of Terminology in Industry  
Publications.

### COMMITTEE No. 6—Education

- A. Progress in Getting Satisfactory Earth Science Courses  
and Canadian Textbooks in Secondary Schools.
- B. Review of Activities of General Committee on Edu-  
cation C.I.M.
- C. Review of Supply and Demand of Professional Man-  
power for the Mineral Industry.
- D. Industry-University Relationship with Regard to  
Future Requirements.



## LADIES' PROGRAM

### SUNDAY, SEPTEMBER 10th

- 2:00 p.m., VISIT TO THE PROVINCIAL  
3:00 p.m. MUSEUM AND ARCHIVES  
and 4:00 p.m. Buses will leave the Chateau at times  
indicated at left  
Courtesy—**The Coal Association  
of Canada**
- 9:00 p.m. COFFEE PARTY—ALBERTA ROOMS  
Courtesy—**Hudson's Bay Oil and Gas  
Company Limited**

### MONDAY, SEPTEMBER 11th

- 10:00 a.m. EXCURSION TO AND LUNCHEON  
AT ALBERTA GAME FARM  
Buses will leave the Chateau at  
10:00 a.m.  
Courtesy—**Canadian Association of  
Oilwell Drilling  
Contractors**

- 6:15 p.m. RECEPTION—ALBERTA ROOMS  
Courtesy—**Alberta Division, Canadian  
Petroleum Association**
- 7:15 p.m. DINNER—ALBERTA ROOMS  
Courtesy—**The Province of Alberta**

### TUESDAY, SEPTEMBER 12th

- 11:00 a.m. VISIT TO LEGISLATIVE BUILDINGS  
AND TOUR OF UNIVERSITY OF AL-  
BERTA CAMPUS WITH LUNCHEON  
AT THE ROYAL GLENORA CLUB  
Courtesy—**Mobil Oil Canada Ltd.  
Gulf Oil Canada Limited**
- 6:15 p.m. RECEPTION—ALBERTA ROOMS  
Courtesy—**Independent Petroleum  
Association of Canada**

# LIST OF DELEGATES

## REGISTERED AT THE MINES MINISTERS CONFERENCE

---

### NEWFOUNDLAND AND LABRADOR

Doody, Hon. C. William	Minister of Mines, Agriculture and Resources
Gover, Mr. Frederick	Deputy Minister of Mines, Agriculture and Resources
Carter, Mr. Frank H.	Pichands Mather & Co.
Hamlin, Mr. John	Imperial Oil Limited
Hillier, Mr. H.	Dept. of Finance
Howse, Mr. Claude	Iron Ore Company of Canada
Kipnis, Mr. Norman	Dept. of Mines, Agriculture and Resources
Macdonald, Mr. Roderick D.	Labrador Mining & Exploration Co. Ltd.
Macdonell, Mr. Harry	Brinco Limited
McKillop, Mr. John	Dept. of Mines, Agriculture and Resources

### NOVA SCOTIA

Bagnell, Hon. Glen M.	Minister of Mines
Nowlan, Dr. J. P.	Deputy Minister of Mines
Berry, Mr. Cameron G.	Shawnee-Palliser Petroleums
Cameron, Mr. J. Robert	National Gypsum (Canada) Ltd.
Dexter, Mr. Thomas W.	Dept. of Mines
Furlong, Mr. Dave	Canadian Petroleum Association
Lougheed, Mr. Donald	Imperial Oil Limited
MacDonald, Mr. Colin F.	Dept. of Mines
MacIsaac, Mr. Walter A.	Dept. of Mines
Shea, Mr. Frank S.	Dept. of Mines
Tapp, Mr. E. Gordon	The Canadian Institute of Mining & Metallurgy
Wahl, Mr. George J.	Murphy Oil Company Ltd.
Zorychta, Mr. Herbert	Dept. of Mines
Zurowski, Mr. Michael	36 Apple Orchard Path, Thornhill, Ontario

### PRINCE EDWARD ISLAND

Darlington, Mr. David	Dept. of Industry and Commerce
Goth, Mr. J.	Shell Canada Limited
Stuart, Mr. Gerry C.	Hudson's Bay Oil and Gas Company Limited
Trent, Mr. Peter	Petrofina Canada Ltd.

### NEW BRUNSWICK

Stairs, Hon. A. Edison	Minister of Natural Resources
Bishop, Mr. R. L.	Deputy Minister of Natural Resources
Brissenden, Mr. W. G.	Brunswick Mining & Smelting Corporation
Clements, Mr. C. S.	Dept. of Natural Resources
Cooper, Dr. Gerald E.	Noranda Exploration Co.
Coughlan, Mr. Elgee K.	Dept. of Natural Resources
Ford, Mr. D. H.	Brunswick Mining & Smelting Corporation
Fowler, Mr. Peter L.	Brunswick Mining & Smelting Corporation
Lee, Mr. Charles S.	New Brunswick Oilfields Ltd.
McCullough, Mr. J. Gordon	Heath Steele Mines Limited
Moerman, Mr. John	Brunswick Mining & Smelting Corporation
Pelletier, Mr. A. T.	Dept. of Natural Resources
Potter, Mr. R. Richard	Dept. of Natural Resources



Smith, Mr. John C.  
Smith, Mr. John H.  
Vannman, Mr. Lars E.  
Warren, Mr. R. W.

Resource Associates Ltd.  
Canadian Gypsum Co. Ltd.  
Boliden-Preussag Exploration  
Dept. of Natural Resources

## QUEBEC

Massey, Hon. J.-Gilles  
Fredette, Mr. Jean-Guy  
Blais, Mr. Roger  
Boucher, Mr. Real  
Boyd, Mr. Kenneth J.  
Brandum, Mr. William  
Bundock, Dr. Jean Benoit  
Bussiere, Mr. Michel  
Carbonneau, Dr. Come  
Cloutiere, Mr. Bernard  
Filteau, Mr. Paul-A.  
Gilbert, Mr. J.-E.  
Girardin, Mr. R.  
Godbout, Mr. Andre  
Grenier, Dr. Paul-E.  
Lampron, Mr. Donald  
Langlois, Mr. L. Gonzague  
Laurin, Mr. Andre F.  
Marcoux, Mr. Camille  
Marshall, Mr. W. J.  
McKee, Mr. Walter A.  
Paquin, Mr. Pierre  
Paradis, Mr. Guy  
Pouliot, Mr. Denys  
Ruelland, Mr. J.  
St. Onge, Mr. Victor  
Simard, Mr. Paul P.  
Smith, Mr. Jack R.  
Sullivan, Mr. C. John  
Tanguay, Mr. Louis-G.  
Taschereau, Mr. Malcolm A.  
Taschereau, Mr. Maurice  
Tetu, Mr. Jean  
Thompson, Mr. George

Minister of Natural Resources  
Deputy Minister of Natural Resources  
Ecole Polytechnique  
Dept. of Natural Resources  
Texaco Exploration Canada Ltd.  
Quebec Metal Mining Association Inc.  
Government of Quebec  
Dept. of Natural Resources  
SOQUEM  
SOQUIP  
Quebec Asbestos Mining Association  
Dept. of Natural Resources  
Iron Ore Company of Canada  
Dept. of Industry and Commerce  
Dept. of Natural Resources  
Quebec Bureau of Statistics  
Quebec Metal Mining Association Inc.  
Dept. of Natural Resources  
Mattagami Lake Mines Limited  
Noranda Mines Limited  
Canadian Industries Ltd.  
Noranda Mines Limited  
Dept. of Natural Resources  
Dept. of Natural Resources  
Dept. of Natural Resources  
Quebec Cartier Mining Company  
Dept. of Natural Resources  
New Quebec Raglan Mines Ltd.  
Sullivan & Rogers, Exploration  
Dept. of Natural Resources  
Quebec Metal Mining Association Inc.  
Gaspé Copper Mines Ltd.  
Government of Quebec  
Northern Oil Explorers Ltd.

## ONTARIO

Bernier, Hon. Leo  
Douglass, Mr. D. P.  
Brown, Mr. L. Carson  
Carpenter, Mr. George W.  
Colborne, Mr. G. L.  
Cornwall, Mr. L. A.  
Craig, Mr. Dave  
Davis, Mr. Harold F.  
deBastiani, Mr. Mario  
Giles, Mr. J. Walter  
Jewett, Mr. G. A.  
Jones, Mr. F. Ray  
Kilburn, Mr. Lionel

Minister of Natural Resources  
Deputy Minister of Natural Resources  
Ministry of Natural Resources  
The Consumers Gas Co.  
Mining Resources Industry  
Ontario Statistical Centre  
The International Nickel Company of Canada, Ltd.  
Ministry of Natural Resources  
Denison Mines Limited  
Ministry of Natural Resources  
Ministry of Natural Resources  
Steep Rock Iron Mines  
Falconbridge Nickel Mines Limited

Lochhead, Mr. Donald R.	Falconbridge Nickel Mines Limited
Matten, Mr. E. E.	Ministry of Natural Resources
McGinn, Mr. James R.	Ministry of Natural Resources
McLean, Mr. Doug	Ministry of Natural Resources
Morris, Mr. W. J.	Ministry of Natural Resources
O'Connor, Mr. Lawrence G.	Union Gas Company of Canada, Limited
Parks, Mr. F. J.	Canadian Gas Association
Peacock, Mr. George	Campbell Red Lake Mines Ltd.
Pye, Mr. Edgar	Ministry of Natural Resources
Schmitt, Mr. D. E. G.	Noranda Mines Limited
Stoddart, Mr. J. Alan	Ministry of Natural Resources
Stovel, Mr. Joseph	Kerr Addison Mines
Taylor, Mr. Ronald R.	The International Nickel Company of Canada, Limited
Wadge, Mr. Norman H.	Ontario Mining Association
Woods, Mr. George	TransCanada Pipelines Limited
Worley, Mr. J. E.	The Algoma Steel Corporation, Ltd.

### MANITOBA

Green, Hon. Sidney	Minister of Mines, Resources and Environmental Management
Bardswick, Mr. William	Dept. of Mines, Resources and Environmental Management
Bloy, Mr. Henry	Mining Association of Manitoba
Bowen, Dr. W. George	Dept. of Mines, Resources and Environmental Management
Carpenter, Mr. John L.	Hudson's Bay Mining and Smelting Co., Limited
Case, Mr. William A.	Falconbridge Nickel Mines Limited
Clark, Mr. W. D.	Aquitaine Company of Canada Ltd.
Duncan, Mr. Donald	Canadian Pacific Railway
Gobert, Mr. M. J.	Dept. of Mines, Resources and Environmental Management
Gregory, Mr. R. Garry	Canadian National Railways
Hensuld, Mr. John	Amax Exploration
Huston, Mr. C. D.	Dept. of Mines, Resources and Environmental Management
Koffman, Mr. Albert	Manitoba Mineral Resources Ltd.
Lebel, Mr. J. Louis	Chevron Standard Limited
Moore, Mr. G. N.	Cominco Ltd.
Morrice, Mr. W. A.	Hudson's Bay Mining and Smelting Co., Limited
Munn, Mr. Donald E.	The International Nickel Company of Canada, Limited
Muzylowski, Mr. Mike	Granges Exploration Aktiebolag
Parres, Mr. A. L.	Straus Exploration Inc.
Perry, Mr. Charles A.	Dept. of Finance
Puchniak, Mr. Stanley J.	Dept. of Finance
Roper, Mr. John S.	Dept. of Mines, Resources and Environmental Management
Russell, Mr. J. Desmond	Dept. of Mines, Resources and Environmental Management
Stevens, Mr. H. L.	570 Portage Avenue, Winnipeg
Trowell, Mr. John G.	Chevron Standard Limited
Williams, Mr. Clarence T.	Tantalum Mining Corporation of Canada Limited

### SASKATCHEWAN

Wotherspoon, Mr. J. G.	Deputy Minister of Mineral Resources
Cameron, Mr. G. W.	Independent Petroleum Association of Canada
Cawley, Mr. James T.	Saskatchewan Mining Association



Chaput, Mr. Urbain J.	Imperial Oil Limited
Christensen, Mr. R. J.	Husky Oil Operations Ltd.
Croome, Mr. Norman C.	Scurry-Rainbow Oil Limited
Ediger, Mr. N. M.	Gulf Minerals Canada Ltd.
Finn, Mr. Frank C.	Scurry-Rainbow Oil Limited
Francis, Mr. David R.	Dept. of Mineral Resources
Fraser, Mr. E. J.	Dept. of Energy, Mines and Resources
Joudrie, Mr. Earl	Ashland Oil Canada Ltd.
Knowles, Mr. Norman D.	Francana Oil & Gas Ltd.
LaBerge, Mr. Albert L.	Imperial Oil Limited
Lee, Mr. Hing	Dept. of Mineral Resources
Mitchell, Mr. Hoadley	Mitchell & Associates Ltd.
Mode, Mr. Donald	Dept. of Mineral Resources
Richards, Mr. W.	Dome Petroleum Limited
Riley, Mr. Colin	Canadian Nickel Co.
Rudolph, Mr. John	Independent Petroleum Association of Canada
Smith, Mr. David G.	Dept. of Mineral Resources
Spicer, Mr. William W.	Canadian Petroleum Association
Tamaki, Mr. Thomas	Dept. of Mineral Resources
White, Mr. Ronald J.	Pembina Pipe Line Ltd.
Zubco, Mr. Victor	Sun Oil Company

## ALBERTA

Dickie, Hon. Bill	Minister of Mines and Minerals
Somerville, Mr. H. H.	Deputy Minister of Mines and Minerals
Barnes, Mr. George W.	The Coal Association of Canada
Belot, Mr. Gordon R.	Nickle Map Service Ltd.
Berkowitz, Dr. Norbert	Energy Resources Conservation Board
Blair, Mr. S. R.	Alberta Gas Trunk Line
Bohme, Mr. V. E.	Energy Resources Conservation Board
Bonus, Mr. John L.	The Mining Association of Canada
Booth, Mr. Harry	Alberta and Southern Gas Co. Ltd.
Bredin, Mr. Edward	Mobil Oil Canada Ltd.
Brown, Mr. Jack	Clark Oil Producing Ltd.
Brown, Mr. Leonard I.	Chevron Standard Limited
Browning, Mr. Jack	Tenneco Oil & Minerals, Ltd.
Chesney, Mr. J. H.	Alberta-Northwest Chamber Mines—Oils—Resources
Coates, Mr. George D.	Luscar Ltd.
Collins, Mr. Cecil A.	Canadian Industries Limited
Currie, Mr. John H.	Tenneco Oil & Minerals, Ltd.
Day, Mr. M. J.	Dept. of Mines and Minerals
Dingle, Mr. Walter B.	Imperial Oil Limited
Earle, Mr. E.	Canadian Petroleum Association
Fern, Mr. Robert H.	Imperial Oil Limited
Frey, Mr. Donald R.	Global Arctic Islands Limited
Frocklage, Mr. Ray J.	Canadian Petroleum Association
Fuller, Mr. K. W.	Energy Resources Conservation Board
Gainer, Mr. Gerry	Gulf Oil Canada Limited
Galvin, Mr. Edward A.	Canadian Industrial Gas & Oil Ltd.
Gelineau, Mr. W. J.	Union Oil Company of Canada Limited
Gibbs, Mr. R. J.	Pan Alberta Gas Limited
Goltz, Mr. Bernard	Dept. of Mines and Minerals
Govier, Dr. George	Energy Resources Conservation Board
Groll, Mr. A. W.	PanCanadian Petroleum Limited
Grossman, Mr. William L.	Shell Canada Limited
Harvie, Mr. Donald	Petrofina Canada Ltd.
Heron, Mr. J. J.	Dept. of Mines and Minerals

Holubowich, Mr. F. J.	Dept. of Mines and Minerals
Horn, Dr. Wallace R.	The Mining Association of Canada
Jones, Mr. D. Carlton	Hudson's Bay Oil and Gas Company Limited
Killey, Mr. J. M.	Shell Canada Limited
Kryczka, Mr. Adam A. W.	Pan Ocean Oil Ltd.
Leslie, Mr. Gordon	TransCanada PipeLines Limited
Lewis, Mr. D. E.	Imperial Oil Limited
Livingstone, Mr. R. D.	The Coal Association of Canada
Maciej, Mr. H.	Canadian Petroleum Association
Mattinson, Mr. C. R.	Shell Canada Limited
McDonald, Mr. A. G.	Federal and Intergovernmental Affairs
McGregor, Mr. W. S.	Numac Oil & Gas Ltd.
McKinnon, Mr. W. Murray C.	PanCanadian Petroleum Limited
McPhee, Mr. Bud	Regent Drilling Co. Ltd.
Meeker, Mr. John C.	Amoco Canada Petroleum Company Limited
Milner, Mr. Stanley A.	Chieftain Development Co. Ltd.
Montgomery, Mr. C. R. S.	Numac Oil & Gas Ltd.
Moore, Mr. Edgar A.	Dept. of Indian Affairs and Northern Development
Pearson, Mr. H. J. S.	Alberta-Northwest Chamber Mines—Oils—Resources
Porter, Mr. John	Canadian Association of Oilwell Drilling Contractors
Proctor, Mr. John W.	Canadian Petroleum Association
Rasmussen, Mr. L. M.	Canadian Gas Association
Relf, Mr. George O.	Gulf Oil Canada Limited
Richardson, Mr. Charles	McIntyre Porcupine Mines Ltd.
Rockingham, Mr. J. M.	Manalta Coal Ltd.
Seaton, Mr. Robert A.	Seaton-Jordan & Associates Ltd.
Spady, Miss E. K.	Dept. of Mines and Minerals
Sparrow, Mr. Robert	Canadian Association of Oilwell Drilling Contractors
Spragins, Mr. Frank	Syncrude Canada Limited
Swanson, Mr. Alaster	Pan Ocean Oil Ltd.
Theriault, Mr. George	Atlantic Richfield Canada Ltd.
Zerr, Mr. Leo C.	Chevron Standard Limited

## BRITISH COLUMBIA

Fyles, Dr. James T.	Deputy Minister of Mines and Petroleum Resources
Bowles, Mr. Ted	Dept. of Mines and Petroleum Resources
Ebbels, Mr. John C.	Shell Canada Limited
Elliot, Mr. Thomas	B. C. & Yukon Chamber of Mines
Gibson, Mr. W. C.	The Mining Association of British Columbia
Hope-Ross, Mr. William	Placid Oil Company
Johnson, Mr. David L.	Dept. of Mines and Petroleum Resources
Lineham, Mr. John	Dept. of Mines and Petroleum Resources
Little, Mr. J. Douglas	Placer Development Limited
McGillivray, Mr. G. B.	Canadian Petroleum Association
Mitchell, Mr. Charles H.	The Mining Association of British Columbia
Moss, Mr. Robert	Dept. of Mines and Petroleum Resources
Murray, Mr. Robert C.	Elf Oil Exploration and Production Canada Ltd.
O'Brien, Mr. Jack	Tenneco Oil & Minerals, Ltd.
Peck, Mr. J. William	Dept. of Mines and Petroleum Resources
Pillar, Mr. C. L.	Placer Development Limited
Poole, Mr. Allan W.	The Mining Association of British Columbia
Tomczak, Mr. John F.	Dept. of Mines and Petroleum Resources
Wall, Mr. R. A.	Total Petroleum (North America) Ltd.
Wilson, Mr. Walter	Dept. of Industrial Development, Trade and Commerce



## GOVERNMENT OF CANADA

Macdonald, Hon. Donald S.	Minister of Energy, Mines and Resources
Austin, Mr. Jack	Deputy Minister of Energy, Mines and Resources
Buck, Mr. W. Keith	Dept. of Energy, Mines and Resources
Burke, Mr. Bryan	Dept. of Energy, Mines and Resources
Butler, Mr. M. E.	Dept. of Energy, Mines and Resources
Convey, Dr. John	Dept. of Energy, Mines and Resources
Drolet, Mr. Jean-Paul	Dept. of Energy, Mines and Resources
El-Defrawy, Mr. J.	Dept. of Indian Affairs and Northern Development
Elver, Mr. Robert	Dept. of Energy, Mines and Resources
Fortier, Dr. Yves O.	Dept. of Energy, Mines and Resources
Goddard, Mr. J. Perry	Dept. of Energy, Mines and Resources
Heney, Mr. Doug	Statistics Canada
Hodgson, Mr. E. C.	Dept. of Energy, Mines and Resources
Howland, Mr. Robert D.	The National Energy Board
Irwin, Mr. Arthur B.	Dept. of Indian Affairs and Northern Development
Jordan, Mr. A. T.	Government of Canada
Landry, Mr. Richard J.	Statistics Canada
Symons, Mr. A. J.	Statistics Canada
Toombs, Mr. Ralph B.	Dept. of Energy, Mines and Resources

## LIST OF LADIES PRESENT

### NEWFOUNDLAND

Hamlin, Mrs. John	Howse, Mrs. Claude	Macdonald, Mrs. Roderick D.
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### NOVA SCOTIA

Bagnell, Mrs. Glen M.	Lougheed, Mrs. Donald	Wahl, Mrs. George J.
Cameron, Mrs. J. Robert	Tapp, Mrs. E. Gordon	Zurowski, Mrs. Michael

### PRINCE EDWARD ISLAND

Goth, Mrs. J.	Stuart, Mrs. Gerry C.
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### NEW BRUNSWICK

Higgins, Mrs. A. Edison	Cooper, Mrs. Gerald E.	Vannman, Mrs. Lars E.
Brissenden, Mrs. W. G.	Fowler, Mrs. Peter L.	Warren, Mrs. R. W.
Clements, Mrs. C. S.	Moerman, Mrs. John	

### QUEBEC

Brandum, Mrs. William	Langlois, Mrs. L. G.	Sullivan, Mrs. C. John
Cloutier, Mrs. Bernard	Marshall, Mrs. W. J.	Taschereau, Mrs. Malcolm A.
Filteau, Mrs. Paul-A.	McKee, Mrs. Walter A.	Taschereau, Mrs. Maurice
Girardin, Mrs. R.	Paquin, Mrs. Pierre	Thompson, Mrs. George

### ONTARIO

Carpenter, Mrs. G. W.	Kilburn, Mrs. Lionel	Schmitt, Mrs. D. E. G.
Craig, Mrs. Dave	McGinn, Mrs. James R.	Stovel, Mrs. Joseph
Davis, Mrs. Harold F.	McLean, Mrs. Doug	Taylor, Mrs. Ronald R.
deBastiani, Mrs. Mario	O'Connor, Mrs. L. G.	Wadge, Mrs. Norman H.
Giles, Mrs. J. Walter	Peacock, Mrs. George	

### MANITOBA

Green, Mrs. Sidney	Gregory, Mrs. R. Garry	Munn, Mrs. Donald E.
Carpenter, Mrs. John L.	Koffman, Mrs. Albert	Russell, Mrs. J. Desmond
Case, Mrs. William A.	Lebel, Mrs. J. Louis	Trowell, Mrs. John G.
Clark, Mrs. W. D.	Moore, Mrs. G. N.	Williams, Mrs. Clarence T.
	Morrice, Mrs. W. A.	

### SASKATCHEWAN

Wotherspoon, Mrs. J. G.	Chaput, Mrs. Urbain J.	Spicer, Mrs. William W.
Cameron, Mrs. G. W.	Christensen, Mrs. R. J.	Tamaki, Mrs. Thomas
Cawley, Mrs. James T.	Joudrie, Mrs. Earl	Zubco, Mrs. Victor
	LaBerge, Mrs. Albert L.	



## ALBERTA

Dickie, Mrs. Jean  
Somerville, Mrs. H. H.  
Belot, Mrs. Gordon R.  
Berkowitz, Mrs. Norbert  
Bonus, Mrs. John L.  
Booth, Mrs. Harry  
Bredin, Mrs. Edward  
Brown, Mrs. Jack  
Brown, Mrs. Leonard I.  
Browning, Mrs. Jack  
Chesney, Mrs. J. H.  
Collins, Mrs. Cecil A.  
Day, Mrs. M. J.  
Dingle, Mrs. Walter B.

Earle, Mrs. E.  
Frey, Mrs. Donald R.  
Frocklage, Mrs. Ray J.  
Fuller, Mrs. K. W.  
Gainer, Mrs. Gerry  
Goltz, Mrs. Bernard  
Govier, Mrs. George  
Groll, Mrs. A. W.  
Grossman, Mrs. W. L.  
Holubowich, Mrs. F. J.  
Jones, Mrs. D. Carlton  
Leslie, Mrs. Gordon  
Lewis, Mrs. D. E.  
Livingstone, Mrs. R. D.  
McGregor, Mrs. W. S.

McKinnon, Mrs. Murray C.  
McPhee, Mrs. Bob  
Meeker, Mrs. John C.  
Milner, Mrs. Stanley A.  
Montgomery, Mrs. C. R. S.  
Pearson, Mrs. H. J. S.  
Porter, Mrs. John  
Proctor, Mrs. John W.  
Rasmussen, Mrs. L. M.  
Relf, Mrs. George O.  
Richardson, Mrs. Charles  
Seaton, Mrs. Robert A.  
Theriault, Mrs. George  
Zerr, Mrs. Leo C.

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Bowles, Mrs. Ted  
Ebbels, Mrs. John C.  
Elliott, Mrs. Thomas

Gibson, Mrs. W. C.  
Hope-Ross, Mrs. William  
Lineham, Mrs. John  
McGillivray, Mrs. G. B.  
Mitchell, Mrs. Charles H.

Murray, Mrs. Robert C.  
O'Brien, Mrs. Jack  
Tomczak, Mrs. John F.  
Wall, Mrs. R. A.

## GOVERNMENT OF CANADA

Howland, Mrs. Robert D.

# OPENING PLENARY SESSION—MINES MINISTERS CONFERENCE

Chairman

The Honourable Bill Dickie, O.C.

Minister of Mines and Minerals

Province of Alberta

My Fellow Colleagues, Ladies and Gentlemen,

It is a great pleasure to welcome you on behalf of the Government of the Province of Alberta to this, the 29th Annual Conference of the Provincial Ministers of Mines.

As your host for the next two days, I trust that you will benefit from the working sessions and enjoy the friendly hospitality that we will endeavour to extend to you. There can be little doubt that interchange of ideas—whether explored during our formal meetings or in the more congenial atmosphere of a social occasion—are valuable. For our part, we will do our best to provide you with a forum balanced with a convivial atmosphere suitable for the occasion.

I think you will agree that I am not over-stating the proposition in describing this Conference as perhaps one of the most important ever held. We are assembled at a time when resource development in every form has assumed new importance both within Canada and abroad.

The world's requirement for energy has reshaped the market place to a point where supply and demand has assumed a delicate if not critical balance. Domestically, in Canada, resource development is today presenting us with new challenges and opportunities.

In our own Province, mineral production, for the first time, reached the highest level in Canada with an estimated value of over \$1.6 billion in 1971, or 28% of the Canadian total. In spite of this record performance we are not without our difficulties. Alberta's sulphur production has changed Canada from a net importer to become the world's largest exporter of elemental sulphur; however, the gap between production and sales continues to widen, and we believe this situation will intensify during the year.

Canadian coal production has continued its rapid growth, and last year exceeded 19 million tons, with our Province producing about 46% of this total.

In spite of this growth, some of the large mines in the mountain coal fields of Alberta and British Columbia are experiencing problems in meeting marketing commitments, particularly to Japan.

There are a dozen or more vital areas of energy development that affect each of our Provinces, and which also have substantial implications for our country as a whole.

The urgent requirement to establish further reserves for both oil and gas is no longer a regional problem.

The future of the Cape Breton coal industry is of importance to Canadians living outside of Nova Scotia; and the collapse of the International market for uranium is surely a matter of National concern, and not limited to Ontario and Saskatchewan.

As our country is the second largest energy consumer nation in the world. I believe we have a collective responsibility to work together in the development of energy requirements for both our domestic and world markets.

This, of course, must be planned and executed in concert with the Federal authority, but we believe that as the source suppliers, each of our Provincial Governments must be consulted prior to any negotiations for the export of our energy production.

There are no simple answers to the complex questions related to managing and developing our resources for generations present, and yet to come. We are committed to economic growth required to sustain a viable resource sector. To do this, we must also maintain a balance between the environmental impact of all aspects of resource discovery.

It is towards these objectives I hope this Conference will make some meaningful progress. It is my conviction that if we approach each problem as a partner rather than as competitors, the 29th Conference will be recorded as the most successful in our Nation's history.

**Mr. Dickie introduced the Honourable Donald S. Macdonald, Minister of the Department of Energy, Mines and Resources, Ottawa, who addressed the meeting as follows:**

Mr. Chairman, ladies and gentlemen,

I want to thank you for your invitation to address the Twenty-ninth Annual Conference of Provincial Ministers of Mines. I regard this Annual Conference as singularly important in that it focuses attention on Canada's great heritage; natural resources. Your invitation has afforded me an opportunity to report on some of the activities engaging us in Ottawa, and to present some perspectives on the administration of our resources for future Canadian development.

In Canada, we have assumed that our mineral and energy resources were infinite; that we would always have enough. But now we can see clearly that the industrial states of the world will experience, within the next decade, a severe challenge of supply in the areas of mineral and energy commodities. Canada is in a better



position than many such nations in that we have more of these essential resources. But we do not have an unlimited abundance of them. Fortunately, we do have the potential resources and the time to plan their management for our own best use. This is an enviable position in a world of constantly increasing resource consumption and rising costs associated with maintaining an adequate resource base.

It is our responsibility to ensure that resource development and management policies satisfy Canada's needs, both present and future. An effective national resource policy, however, must be the result of the combined experience and the common needs of the federal and provincial governments as well as those of private industry. In recent years there has been an increasing realization of the inter-dependence of these three activity levels. Because these roles are interdependent in energy and mineral resources, none of us can go it alone.

Canadians, together with much of the rest of the world, realize that their resources are not adequate for the indefinite future, that livable space, even in Canada, is finite and in many places quite limited, that natural processes can be thwarted or diverted only temporarily and at increasing cost or effort, and that, in truth, all we have now or in the future to work with and to live on, is our landmass. Everywhere, we are recognizing a need to know more about our landmass in order to shape policies or prepare for the future.

The combined efforts of provincial, federal and company geologists made Canada a successful host to the 24th International Geological Congress. If the results of this Congress, and the earlier deliberations of the Stockholm conference on the Human Environment prove anything, I think you will agree that international challenges command a national response which underlines the mutuality of our interest and underscores the need for co-ordinated national policies in the husbanding and development of national wealth for the benefit of all Canadians.

### **Issues and Challenges of National Concern**

While I will not reply in any detail to the points raised at the last Provincial Mines Ministers Conference I feel it appropriate to highlight issues and challenges of national concern to our respective governments and to industry since your last meeting.

Geological work in the gold mining areas of Ontario and Quebec has been intensified in the search for metallic mineral deposits in view of the rapidly diminishing gold ore reserves. Urban geology is a relatively new endeavour and our expanded program in 27 cities will be of great assistance in urban planning. The Canadian Centre for Geoscience Data, which owes a great deal to deliberations at these Annual Conferences in the past, is progressing well towards its principal objective of developing a national computer-based system for storage and retrieval of geoscience data.

The joint federal-provincial aeromagnetic program, which has been in effect for some years, now covers large areas of our country and this year contract surveys are continuing in northern Quebec, Labrador, southern and north-central British Columbia and on Melville Peninsula. Valuable aid is thereby being given to industry in its exploration ventures.

With the accelerating interest in the north, the Geological Survey is carrying out a wide variety of projects in the Arctic. One of the most unique parts of this program was the cooperative study carried out last spring by six oil companies and the federal government to determine more precisely the geological characteristics of the Sverdrup Basin in the Arctic preparatory to industry drilling programs. This is an example of how private industry and government can work together to develop a national mineral and fuel inventory. Finally, I could cite the large federal program of geological and environmental studies in the Mackenzie Valley which will be of much assistance to industry to determine the route, design characteristics and costs of northern pipelines.

### **Uranium and Thorium Legislation**

In his remarks at Halifax last year, the Hon. J. J. Greene indicated his belief that details of the proposed Uranium and Thorium Mining Control Act should be cleared away before moving forward with his proposal for replacing the Atomic Energy Control Board's uranium exploration permit by a radioactive ore removal permit. In the intervening year we have prepared a detailed proposal for legislation controlling ownership in the uranium industry and sought the views of the industry. It will come as no surprise to this audience to learn that the views of the industry are somewhat at variance with those of the government. While we are considering the submissions we have received the Government's overall objective is to ensure that future developments of Canadian uranium and thorium deposits should take place with maximum opportunity for the benefits to accrue to Canadians.

At the moment, commerce in uranium is at a pause, but we know that demand at home and abroad will accelerate by the end of the decade. We also know that for Canadian producers to be in a position to compete for that demand, the definition of our new legislative framework for uranium and thorium cannot be long delayed. For this reason we will be giving priority in the coming year to completing a detailed policy which will reconcile the need to get the best deal for Canadians with the need to be competitive on world markets. In the meantime, it is important that our precious uranium resources not be dissipated at the current depressed prices existing in the international market place. Hence, last month the government issued a new Regulation under the Atomic Energy Control Act respecting price levels and quantities of uranium for export as may be specified.

in the public interest. Hopefully, by exerting this type of rational control, which was taken with the full knowledge and consultation of Canadian uranium producers, the uranium industry should move in the direction of greater stability, as well as increased exploration activity in expectation of a better profit potential in the long term.

### **The Emergency Gold Mining Assistance Act**

At your last Conference, my predecessor the Honourable J. J. Greene announced that the federal government was prepared to consider a further extension of the EGMA Act beyond June 30, 1973. During the past year, a federal interdepartmental committee, including representatives from my Department and ten other government departments investigated the problems of gold mining communities. The Mining Association of Canada, on behalf of the gold mining operators, also made representation to the Canadian Government. The Interdepartmental Committee on Gold Mining recommended that the Act be extended for a further three years from June 30, 1973 to June 30, 1976, without any change in the present method of computing the amount of assistance payable. The Cabinet confirmed this recommendation and I intend, in the next session of Parliament, to introduce a Bill to amend the EGMA Act.

Because of the high price of gold in international gold markets during 1972 (now in excess of \$65 a troy ounce) our Canadian lode gold mines have been selling all their production in the open gold markets and have been receiving no cost assistance whatsoever under the terms of the EGMA Act. However, the amended Act would give needed stability to the gold mining communities. If the international gold price declines to below \$48 an ounce they can once again apply for cost assistance.

### **Coal: A Shift to Research and Development**

In Canada's coal industries, my Department has shifted from direct aid to the coal mining industry—in the form of subventions and low-cost loans—to promoting research and development. This approach deals with the basic technical and economic factors influencing the production and use of coal and will be of prolonged benefit to the industry. This kind of federal participation is aimed at optimum economic use of Canada's coal resources.

My Department has always been a major Canadian agency for conducting research and development related to coal. I expect these efforts will be continued and expanded. Hopefully, our plans in this direction will be carried out in full and close liaison with the provincial governments and with the industries that are engaged in the production, consumption and transportation of coal, both for internal use and for export.

Problems and opportunities in the coal industry have no regard for provincial boundaries. The production and marketing of the lignite coal of Saskatchewan and of the

sub-bituminous coals of Alberta have much of common concern. There are also many technical points of common interest between the deep coal mines of Nova Scotia and those of Alberta and British Columbia. We must also recognize that some of our non coal-producing provinces, such as Ontario, have an interest from their points of view as coal consumers. As you know, Ontario is almost wholly dependent on foreign coal supplies.

### **The Call for a Joint Program on Coal**

Because of all these points of common interest and concern, it is vital that all of Canada's activities related to coal resources should be co-ordinated in a joint program supported by the federal government, provincial governments and industry.

My Department is prepared to take part actively in such a joint program and has already taken a number of effective steps in that direction. We are engaged in a co-operative study with the Province of Saskatchewan to determine the economic availability of the lignite coal resources of that Province. We expect to enter into a similar study with Alberta related to its sub-bituminous coals. Hopefully, this type of resource inventory will be extended to other coal fields of Canada.

This year, the Department of Energy, Mines and Resources is supporting coal studies at five research centers across Canada. A decision was also reached to enlarge our Edmonton laboratory to include coke oven testing facilities for providing a greater technical support to our metallurgical coal producers. In Nova Scotia, my Department is assisting the Cape Breton Development Corporation in a number of technical and economic problems affecting the coal resources of the Sydney coal field. My Department has also co-operated with the Province of Nova Scotia in arranging the orderly closure of the McBean Mine with minimum disruption to the working force and the dependent community. In New Brunswick, the Department of Energy, Mines and Resources has been assisting the Province in its plan to reduce its coal production more in line with available markets.

Within recent months, I have met with coal producers of western Canada to learn more about the problems and the potentials of their operations. Within the next few days my Deputy Minister and other senior officials will be meeting with representatives of the Japanese government regarding areas of common interest on energy and mineral commodities. I welcome all such exchanges of viewpoints for I can think of no better way of ensuring that national policies and programs truly reflect the real needs of the provinces and the industry.

### **The Offshore: A Status Report**

At the recent meeting of Prime Minister Trudeau with the heads of governments of the four Atlantic Provinces and the Vice-Premier of Quebec, the Prime Minister took further steps to try to bring about a cooperative



resolution of the offshore situation while maintaining the ownership and jurisdiction principle set out in the Supreme Court Opinion of 1967. He agreed, for example, that the federal government was prepared to reconsider its offer to allocate 50% of the mineral resource revenues from federally administered offshore areas to a national pool to be shared amongst provinces; the federal government would be prepared, not only to increase this percentage, but also to consider the possibility of establishing regional revenue pools. We would also be willing to study any proposal for the administration of offshore mineral resources that the provinces might put forward.

The federal government is, of course, not unmindful of its responsibilities in respect of this national resource. Keeping this in mind, we are prepared to take all reasonable measures to try to bring about federal-provincial cooperation in the offshore mineral resource field and thus avoid the prolonged and costly litigation that would otherwise be necessary to resolve legally questions of ownership and jurisdiction.

### **Proposals for Deep Water Ports**

The federal government is aware of a number of proposals to build refineries and/or ports in eastern Canada to accommodate very large crude oil carriers. Such proposals come in a variety of forms but all involve significant aspects of government policy. The proposals call for receipt of crude oil from foreign origin and at least some marketing of products in Canada in active competition with products from established Canadian refineries. They would involve marketing of products in the United States, in markets which are now, or could be, served in part from Canadian production. This basic element of competition in Canadian and United States markets raises real concerns in respect of the National Oil Policy. The impact of these developments could be felt as far afield as Alberta, the Mackenzie Delta and the eastern Arctic Islands as well as upon oil developments of the eastern Canadian offshore.

There are a limited number of port sites in North America capable of handling such large crude oil carriers and most of these sites are in Canada. Air and water pollution problems related to port location in Canada could be a major factor of national and regional concern. Employment opportunities would be created by such developments but such opportunities are rather small in relation to the scale of capital requirements. Some proposals have "tied" financing which allows for only a minor portion of goods and services of Canadian origin. Security of oil supply considerations are potentially involved in such proposals and such questions are of concern to the government as well as forming an essential element in the continuing discussions between Canada and the United States on matters of oil trade.

There are obviously a number of costs and benefits associated with the various proposals for eastern Canada deep water ports and the federal government is currently

undertaking a thorough appraisal of those factors that have national implications.

### **The "Energy Crisis"**

Much is heard these days of the so called "energy crisis" in the United States which stems from the realization that in the relatively short term that great nation will be more than 50% dependent on non-U.S. sources for its petroleum supplies. Canadians in general have a feeling that there is little if any likelihood of a similar situation arising in Canada but can we, the responsible agencies of government, assure them that this is in fact the case. Granted we have proved reserves of oil for something in the range of 18 years, at last year's rate of consumption, natural gas for 28 years, coal for a number of hundreds of years, and uranium for perhaps a half century. However these proved reserves of oil and gas must be added to in the face of growing rates of consumption and even coal, when the economics of recovery are considered, is not the limitless reserve we sometimes think.

Accordingly, the potential energy resources of this nation take on greater significance as it is those yet-to-be-discovered resources which will carry us over into the next century. Those resources will be found in areas of both federal and provincial jurisdiction and will be called upon to meet our national needs as well as export opportunities. Therefore I seek your cooperation in a major effort which my Department is now initiating in the form of an energy resource inventory. This will consist of a continuing program of geological surveys, analysis of geologic results from private industry and government programs and an economic assessment of the cost of developing and moving those resources to market. Only through a national program of this sort will we have the information essential for the development of realistic energy policies.

A small start in this program was made this year through the commencement of the aforementioned two-year cooperative federal-provincial study of the lignite resources of Saskatchewan. We hope that this program will serve as a model for extending the studies westward into Alberta and British Columbia.

### **Northern Pipelines**

The progress now being made in oil and gas exploration in the far north has focussed attention on the challenge of providing transportation systems for these frontier resources. A great deal of research has been underway by industry and the federal government preparatory to an application to build a gas pipeline from the Arctic coast to Canadian and U.S. markets. This project which is currently being estimated by industry to cost some \$5 billion will be of great importance not only to the north but to all of Canada. The federal government is determined to ensure maximum possible owner-



ship within Canada and major benefits at regional and national levels. High standards will be set to provide for full protection of the environment during pipeline construction and operation. Route selection must have regard to a great many factors including those concerned with safety, the environment, engineering efficiency, cost and market access.

Preparatory to the day when the federal government receives an application to construct a northern pipeline, which now seems likely to be sometime in 1973, announcements have been made setting out the national interest objectives and requirements which must be met. Principal among these statements were the general pipeline guidelines established in August 1970 and the detailed environmental guidelines published last June. In due course detailed requirements as to financing, ownership and control and Canadian content will be spelled out.

### **A National Advisory Committee on Northern Pipeline Financing**

Preparatory to the establishment of these financial and related specifications, advice will be sought from the Canadian financial community. I would like to announce at this time that it is the intention of the federal government to establish a National Advisory Committee on Northern Pipeline Financing representative of those with skills in the operation of the Canadian and international capital markets. This Committee will be asked to advise the Government of Canada regarding financing plans providing for a maximum of equity ownership being offered to Canadian investors and financial control being retained by Canadians in any northern pipeline developments. I hope to announce the membership of this Advisory Committee in the near future.

### **Gas Pricing**

Even this brief overview of some of the principal energy and mineral resource issues facing Canada today illustrates the interdependence of various parts of our country on these issues and the importance of good communications and satisfactory federal-provincial inter-relationships in reaching good solutions that will be of maximum benefit to all.

Possibly no matter illustrates better the need for a balanced country-wide approach to a difficult problem than the current issue of natural gas pricing. Many factors have to be considered including the needs of producers for prices that will serve as adequate incentive for further exploration, the concerns of residential, commercial and industrial consumers throughout the country for low-cost energy, the country's overall objectives of maximizing returns from the export of its non-renewable resources while at the same time protecting future domestic requirements, and the objectives of regions and provinces of benefitting from the spin-offs associated with the production and use of a valuable national asset.

The federal government has an important role in the process of reaching a national consensus on such an issue and of course, each province whether predominantly as a producer or consumer, has a very direct interest in how market allocation proceeds.

### **Mineral Development Agreements**

Another area which illustrates well the potential for extended federal-provincial cooperation involves the concept of mineral development agreements. The federal government through the Department of Regional Economic Expansion and the Department of Energy, Mines and Resources has committed expenditures for mineral development in eastern Canada. The expenditures are provided for in agreements with the provinces of New Brunswick, Newfoundland and Labrador and Quebec. The procedure has been for the provinces to develop and propose programs to the federal government. A period of joint consultations then follows with attendant modification as necessary to reflect common objectives, budgetary constraints and technical-economic factors. Ministers of both the federal and provincial governments then sign a formal agreement. Detailed planning, specification, evaluation and monitoring of projects are undertaken by a federal-provincial management committee.

In September, 1971, the governments of Canada and Quebec completed renegotiation of a 1968 agreement for the Gaspé area of Quebec. Although it includes mineral development projects, the main aim and scope of the agreement goes beyond the mineral sector into the modernization and development of all sectors. Hence, for minerals, a further agreement with Quebec, involving the province, EMR and DREE was reached in 1971, concerning the northwestern part of the province and the Lake St. John area. There is to be a five year (1971-1976) \$20 million minerals program in the two areas. The Canada-Newfoundland agreement on Mineral Development was signed in September 1971. The agreement extends over four years, during which time a number of studies pertaining to resource evaluation and development planning will be undertaken.

These references to natural gas pricing and mineral development agreements reinforce the theme that various parts of Canada are closely bound by energy and mineral policies. In view of the increasing national importance of current energy and mineral issues, my Department is undertaking a comprehensive review of Canada's national energy and mineral policies. Consideration is being given to both the actual and potential contribution of those non-renewable resources to national development.

### **Resources, a Mature Economy, and Some International Influences**

However, primary dependence on the production and export of raw or partially processed resources is not

sufficient for long run development toward a mature economy. Consider the fact that we do not have an unlimited supply of economically exploitable resources. Consider further that the exploitability of Canadian resources is dependent on a host of factors, such as changes in technology, world demand, discoveries of high grade competitive orebodies in other countries, market control and Canadian resource depletion. No region of Canada is immune to the impact of these forces.

There are many and important international factors that will affect the long run contribution of resources to our development potential and hence should enter explicitly into our policy analysis, direction, and strategies at all levels of government.

Principal among these factors are: the growth and dominance of multi-national firms, the emergence of giant trading blocs; the development of resource strategies in supplier and consumer countries and by international agencies, and the discovery and disposition of resources in the deep ocean.

The growing influence of multinational firms on the exercise of sovereignty and the development of domestic policies is now widely recognized. In certain cases, those enterprises are considered to be commercial extensions of other countries. Through their ability to harness and move huge amounts of investment funds, they have steadily increased their control and share of world output and markets. Vertical integration across borders and diversification of output and sources of supply considerably enhances their bargaining power. Given the success of these international firms to date, it is important for Canadians to develop policies to make certain that actions of these firms in Canada respond to Canadian priorities.

The second factor is the emergence of economic trading blocs among industrialized nations, such as the European Economic Community (EEC), and the Communist bloc countries' Council for Mutual Economic Assistance (COMECON). At the same time, the developing nations are joining together, in such groups as the Organization of Petroleum Exporting Countries (OPEC), the Intergovernmental Council of the Copper Exporting Countries (CIPEC) and the Latin American Free Trade Area (LAFTA). These blocs may well alter world trading patterns. What will these changes imply for future development patterns? Where will Canada take its place? Do we go it alone? Do we join the resource exporting countries? There are already high tariff and other barriers to international trade in processed materials. What further tariff and non-tariff restrictions can we anticipate from trading blocs? Under what conditions, can Canada gather the requisite financing skills, technology and markets to develop and compete internationally in mineral-based secondary manufacturing? Our national maturity will be gauged at home and abroad by the answers to these questions and the way in which solutions are finally implemented.

Many national governments are reviewing their strategies in protecting the resource interests. Japan has com-

pleted a white paper on the need to derive national strategies to ensure continuing supplies of raw materials. The United States is also in the process of establishing a national materials policy. They too are examining their resource requirements, sources of supply and strategies for maintaining their world position. I wonder when the EFC countries will develop a common strategy? In sum, the resource deficient, highly industrialized, financially mature nations will continue to place greater pressure to maximize their benefits from the use of raw materials. These pressures could continue to relegate Canada to the position of supplier of raw materials—at least while our supplies are economic. It is estimated, for example, that U.S. demand for copper by the year 2000 will equal today's total world demand. In the short run, this increased demand should benefit Canada. However, it is the long run picture that should condition our behaviour. We should be examining our bargaining position and strategies to enhance our long run internal development needs.

In addition to trading bloc and national policies, the United Nations Conference on Trade and Development (UNCTAD) is concerned with the development, exploitation and distribution of products derived from non-renewable mineral commodities. UNCTAD is now in the process of establishing a Working Group to draw up a draft Charter of Economic Rights and Duties of States. Should this draft be accepted and become a major United Nations' Charter, the force of its moral suasion could greatly influence world thinking with respect to world trade in many areas, particularly minerals and mineral products. For example, trade relations between industrialized and developing nations could be affected insofar as the form of payment for raw materials could be in terms of a greater unit value or preferably there could be increased trade of minerals in the form of downstream products.

Finally, another factor that could have a major impact on long run internal development patterns and potential is the recovery of mineral wealth in either the offshore continental shelf or in the deep ocean, not to mention discoveries in other countries of the world. Questions of the ownership of the deep ocean resources in international areas will certainly arise. What should Canada's position be? It may be in our interest to continue to press for United Nations ownership.

## In Conclusion

In conclusion, all these international factors will affect the internal development of this nation and its regions. Fortunately, we will have time to manoeuvre and to take a national approach in examining strategies that might consider: diversifying our trade patterns, diversifying our internal economic structure, diversifying our trading products and services, promoting international resource marketing, promoting the establishment of self-sustaining growth centres, developing the full range of requisite financial institutions, providing guidelines for the direction



of internal investment areas, promoting technological development, exploring our landmass and determining our resource potential. Thus, in responding to and anticipating international events with a common front, we can hope to improve and stabilize fluctuations in employment and income, increase our foreign exchange reserves and improve the overall quality of Canadian life. But an appropriate response to these international forces presupposes the existence of institutions and institutional arrangement capable of effectuating the correct resource management decisions.

Therefore, do you not think that we should re-examine our consultative mechanisms in the light of the potential contribution of resources to Canadian development needs? Do you not think we should place emphasis on discussing and establishing long term resource development policies and strategies? Do you not think that we should examine and improve our understandings on the use of our respective policy instruments and on how collective action might substantially improve benefits? Do you not think that we should assess new concepts and strategies to deal with priority subjects? Do you not think that we should meet with a problem-solving attitude regardless of jurisdictional positions relative to the resource field?

Resource management is a responsibility to be shared by industry and governments. We should recognize this fact, if Canada as a developing nation comprised of developing provinces hopes to take its place among the industrialized nations of the world. Not many of our respective governments or industry acting alone could survive over the long run.

I believe that we will still have the time and flexibility to ensure that our mineral and energy sectors will remain healthy and strong, and that we can husband our resources in such a way that the benefits from these sectors will make a greater and lasting contribution to the long run economic development of Canada and its provinces.

**Mr. Dickie thanked the Honourable Donald S. MacDonald and introduced Mr. Franklin K. Spragins, President Syncrude Canada Ltd., who addressed the meeting as follows:**

For almost a century, wheat and cattle formed the backbone of an expanding Alberta economy. The discovery of Turner Valley oil and the first faltering pioneer attempts to extract oil from the Athabasca tar sands were only ripples on the surface of this economy, telling of better things to come.

On a cold February afternoon in 1947, after dozens of years of meticulous search throughout the prairie provinces, the most significant oil well ever drilled in Canada, Leduc No. 1, started producing oil. It opened new geological as well as new economic horizons for a people anxious to get on with the development of their

province. It came shortly after the end of World War II at a time when people were ready for action.

For over twenty-five years the people of Alberta rushed towards a well-defined horizon. Oil field after oil field was discovered and from north to south and east to west reserves of crude oil multiplied faster than markets could be opened to absorb them.

But by the late 1960's, it was becoming evident that the conventional oil industry in Alberta had lost some of its momentum. New oil frontiers elsewhere were beckoning. And the North American economy's thirst for oil was growing more rapidly than many forecasters had estimated. Today it is obvious that the time has come to "cash in" Canada's greatest energy insurance policy—the vast petroleum reserves of the Athabasca tar sands.

As an indication of what is happening, both Texas and Louisiana, the two big names in U.S. oil production, several months ago increased production allowables to 100%, and shortly thereafter, the U.S. government announced increased import quotas, including one for Canada. The United States has reached its peak production capability; however, its demand for oil continues to grow.

This growing supply-demand imbalance in the United States creates additional market opportunities for Canadian oil exports—provided, that is, that the Canadian oil industry is capable of expanding its production sufficiently to serve both growing Canadian needs and new export opportunities. Current exploration in the Canadian Arctic and offshore has turned up promising finds. But North American demand is growing so rapidly that large-scale development of the Athabasca tar sands will be required to keep pace with it—even if large amounts of oil are found and produced in the Arctic and offshore. If we fail to bring the tar sands into large-scale production in the 1970's and 1980's, there is a real chance that Canada might have to relinquish significant oil export opportunities.

On the other hand, early and wide-scale development of the tar sands will enable Canada to retain and perhaps expand these export markets—with significant benefit to our balance of trade.

The conventional oil industry can be proud of its contribution to the Canadian economy. Royalties, fees and taxes paid by this industry have helped to provide higher education, roads, cultural services, medical treatment and many other "people services". In addition, spin-off from the conventional oil industry has boosted secondary industrial development in many parts of Canada. Jobs created in the oil industry itself are only the "tip of the iceberg" in terms of total jobs created, not only within the oil industry, but within sectors servicing the oil industry.

However, with new opportunities now unfolding, it is synthetic crude oil's turn to add new dynamism to the Canadian economy.

Synthetic crude, the basic product of the Athabasca tar sands, is beginning a long climb to heights never



dreamed of in the conventional oil industry. In the mineable area alone, there are 124 billion barrels of oil in place. Based on an overburden to tar sands ratio of 3.5:1, 86 billion barrels of this total are considered recoverable as high grade synthetic crude. This amount of recoverable oil is almost twice the North American proven reserve supply of conventional crude. In the sections of the tar sands area having in excess of 3.5:1 overburden to tar sands ratio, there are even greater reserves of oil waiting for the development of a process applicable to its recovery. This may not be far away: already considerable effort is under way to establish an economically viable technique for its recovery.

The potential of the Athabasca tar sands is so vast we have difficulty in finding understandable terms to describe it. Let me dramatize it for you this way.

In the mining area where a commercial venture is already under way, there is room for dozens of plants of the size proposed by Syncrude Canada Ltd. without having to deal with the extreme mining ratios of 3.5:1. In order for each plant to produce oil for 20 years, we would require total reserves of approximately one billion barrels of recoverable oil per plant which leaves a comfortable margin when we consider that perhaps 86 billion barrels, according to Syncrude's current reserve estimates, are available for mining development.

Along with each tar sand plant a large power plant, actually about 150 megawatts in size, will be required. Each power plant will produce, in addition to electricity, substantial quantities of steam and treated water also for use in the tar sands extraction and upgrading units. Each tar sand facility will require at least the equivalent of a 20" pipeline to take its output to market. In time if many plants use a common carrier pipeline, the sizes could reach and surpass those planned for the famed Prudhoe Bay development.

Operating tar sands plants will give rise to significant new by-products. Research to date in this area has only scratched the surface. Sulphur is an obvious example. Its sale is currently limited, but in time, sulphur, as a base for fertilizer needed to grow the crops to feed the exploding world population, is assured a position in the market place. Iron is found in the tar sands—if extracted, its sale will always be possible. Production possibilities also exist for large quantities of titanium and zirconium and related metals. These metals will find broad use in paint manufacturing, in the production of peaceful atomic power, and in the aerospace industry. Many other possible by-products have been isolated and still others are in the test-tube stage. Synthetic crude has many different qualities, one of which is the ease with which it can be broken down and remolded into other products. It is this characteristic that may someday open the door to major new petrochemical developments.

Tar sands production technology is a new technology having little in common with the production technology of the conventional oil industry. Because of the technical differences, entirely new service industries will spring

up. Services to be required will range from specialized foundries to service facilities for electric train and mechanical equipment of sizes not seen before in Canada.

Along with the technical development of the Athabasca tar sands will come urban developments of major proportions. It has been estimated that approximately 8,000 to 10,000 permanent residents will move into the tar sands area each time a major plant is built. Full-size cities will spring up over night without going through the village and town stages. New highways will be built to connect these cities and air transportation and communication facilities will be expanded to service the growing areas. One of the most profound effects of the development of the Athabasca tar sands will be upon the people of Canada. During the construction of each new tar sands plant, some 3,000 skilled workmen will be required at the job site. Additional tradesmen in large numbers will be needed to carry on urban construction concurrently with construction of each plant.

Based on present worth dollars, it is estimated that a basic tar sands plant will cost over \$400 million. A pipeline to handle the synthetic crude will cost between \$40 and \$50 million; a power plant is expected to cost in the \$50 to \$100 million range; and urban development cost is estimated at \$75 to \$100 million.

If the plant proposed by Syncrude Canada Ltd. can be used as an example, each new tar sands development project will generate approximately 1,100 new permanent jobs with the spin-off from the main development offering additional permanent employment to 7,900 men and women. The total annual payroll for these 9,000 new jobs is estimated at \$110 million. These jobs will create vast new opportunities for native people and under-employed families. The resulting personal income stream will support 20,000 to 25,000 people and will help finance cultural, social and educational opportunities for many Canadians.

A tar sands industry will bring about the creation of new design, research and development activities which will be of a major value to Canadian engineers, designers, and researchers. This trend is already evident in the activities of Syncrude Canada Ltd. To date approximately \$37 million have been invested in research and development—about 95% of which has been spent in the Edmonton and Ft. McMurray areas. Syncrude now has a research and engineering organization of approximately 100 men and women. By year-end the total number is expected to expand to approximately 133 people. Many others are under contract.

The production of Athabasca synthetic crude oil still has many unsolved problems and must be considered an extremely high risk venture. At this stage it is no bonanza! Before the production of such oil can take place in substantial quantities, someone must demonstrate, beyond any reasonable doubt, that the production process is economically attractive to investors. In addition, the Athabasca extraction and process industry must offer stable and attractive working conditions in order to bring

together the thousands of people that will be needed for its development. Finally, having accepted these two challenges, it will be necessary to find a procedure which will allow tar sands' development within acceptable environmental limitations.

To meet these three challenges, there must be complete coordination and cooperation among governments, industry, labor and the public. Governments must set up realistic regulations which will promote resource development consistent with the needs of industry and the public. Tax laws must be compatible with industry's ability to pay, recognizing risks to be encountered, and operational regulations must be set up consistent with the development of a new resource. Pollution and reclamation guidelines must be realistic and take into account industry's need for stable ground rules based on research, not emotion.

It will be industry's responsibility to carry out research and work out acceptable engineering procedures. Also, it will be industry's responsibility to make arrangements for necessary capital and to participate in a significant way in the training of construction and operating personnel. Labor as a group must do everything possible to provide a stable work force for long periods of time and to broaden job opportunities for more and more people including native people and those displaced from agriculture. The investing public should keep abreast of tar sand developments and do its share in raising the huge sums of money that will be necessary to keep Athabasca developments moving.

If all of these groups can pull together, there is every chance that the tar sands will finally realize its vast potential as a source of wealth and industrial progress well into the next century. But it must be realized that it will take time to develop the tar sands. Even if one tar sands' plant could be built every year, it would take decades to develop even a portion of the mining area and there is no doubt that this development rate is, at this stage, only a goal towards which to work.

It was the vision of the vast potential however, that excited the first explorers who stumbled on the tar sands almost two centuries ago. It was the vision that kept alive the hopes of the adventurers and early entrepreneurs who built the first small plants to try and extract the oil.

Now, finally, the beginning of the tar sands' time has come. We seem to have the necessary technology to extract the oil in large quantities. The tar sands are ready for us.

The question is, are we, as Canadians, ready for the tar sands?

Are we ready to help put together the vast body of savings, of scientific knowledge and of managerial expertise, that will be required to extract the oil and market it at a competitive price? We trust that a significant contribution can be made toward filling the widening North American gap between supply and demand for

crude oil. At least one new tar sands plant brought on stream each year is a goal for the future. It would require 10,000 to 12,000 construction workers and \$2 to \$3 billion in capital locked up in construction. This is a challenge greater in magnitude than Alberta and Canada have ever faced in peacetime, however, one that I believe someday we can overcome.

Those of us with a stake in the tar sands have nothing but good wishes for those now exploring for oil in the Arctic and on the eastern offshore; we know that even if oil is found in large quantities in these areas, and even if it can be produced at marketable prices, the tar sands are going to play a vital role in the energy future of the world. The oil is there, we know how to extract it, and evidence from current operations in the tar sands is that the oil can be produced at a price the market will pay. Developing this great resource to its full potential is easily one of the most exciting challenges in Canada's second century.

**Mr. Dickie thanked Mr. Spragins and introduced Dr. Wallace R. Horn, Research Co-ordinator, The Mining Association of Canada, who addressed the meeting as follows:**

Mr. Chairman,  
Honourable Ministers,  
Ladies and Gentlemen:

When I was invited, quite recently, to briefly address this session of your Conference, the particular nature or scope of the address was not clearly specified.

I recalled, however, that subsequent to your Halifax Conference last year, you invited The Mining Association of Canada to submit a memorandum outlining its environmental activities, and you were also kind enough to solicit our reaction to the concept of establishing an environmental research institute.

We were extremely pleased to respond to your invitation and to the development of such an interface between us. We were gratified as well to learn of the generous acceptance you afforded our report.

It therefore occurred to me that it might be appropriate on this occasion to say a few words in confirmation of the Association's continuing activities as already reported, together with new interests, and also, if you will allow me, to make a couple of more philosophical observations towards our common purposes.

I must emphasize at this point that when, throughout these remarks, reference is made to "the mining industry", I properly mean that large part included in our Membership which to a very large extent comprises gold, base metals, industrial minerals and iron ore.

By the way, I find, gentlemen, that it is becoming a habit for me to preface even a brief address on mining environmental matters with a simple confession — namely, to emphasize that I am not, either by training or practical



experience, a mining man. The reason I mention this, quite frankly, is that many will consider that fact a positive qualification in discussing environmental topics closely allied with metal mining.

I have no doubt whatever that a move from one industry to another, as in my own case, does allow improved evaluation and perspective or, in a word, a reasonable concept of what the industry is doing.

As to what the industry at large has done and is doing — I do not, of course, propose to go into that very substantial account at this time. I did present such a lengthy outline late last year to the Western CIM Meeting in Vancouver. Meanwhile, the MAC has prepared and largely distributed its "Pollution Control Report from Canada's Mining Industry".

Nor will I take time to review individually the large number of Association interests and activities which were outlined in our memorandum of last November to Mr. Sullivan, your Chairman at that time. You may recall that they included the areas of information, consultation, industry symposia, working co-operation with both federal and certain provincial agencies, the National Advisory Committee on Mining and Metallurgical Research, and, not least, specific activities relating to in-plant environment — namely, noise and dust, and the development and issue of Dust Control Guidelines.

Wherever appropriate and timely, it may be said that all of these are being assiduously pursued by the MAC.

I would, however, list some examples of new interests and some intensified areas as follows:

Firstly, as a matter of in-plant or working environment to which special attention is being given, I would specifically mention drilling noise. Through our Drilling Panel, we are, on the one hand, endeavouring to heighten the alertness of our Members to the whole noise problem, and, on the other, through collective discussions and continuing liaison with all the drill manufacturers, we are trying to increase and encourage research and development work by them towards quieter drills. Meanwhile, our Panel, which is drawn from all parts of Canada, is learning a good deal about noise and noise measurement. We hope and, indeed, believe that its members and their associates can competently contribute to those appropriate advisory groups as may be associated with provincial governments in this special problem area.

While our promotion of research and development areas has been broad, we have given particular stress to the development of new and continuous methods of rock and ore breakage, since we believe that such concepts would allow greatly improved control in the environment of underground mining.

Earlier this year, the "Tentative Design Guide for Mine Waste Embankments in Canada" was published. This important and timely document was prepared for the Mines Branch by a selected group of consulting firms and was edited by a team from universities, industry and consultants. The MAC considered this document to be of such potential value to a large portion of the industry

as to deserve our own best efforts to ensure a closing of the gap between the federal Mines Branch and the industry at large, and, more particularly, to ensure an interpretation and clarification of the contents of these Design Guidelines for Canadian mining operations.

To this end, and with the full co-operation of the Mines Branch and consultants in providing the appropriate discussion leaders for a meeting in seminar form, we have given over our annual two-day MAC Wastes Symposium to this matter and we look forward to a highly constructive occasion indeed. As a matter of interest, I might add that the Mining Research Centre of the Mines Branch is furthermore co-operating with a number of universities towards the latter's development of seminars to serve various parts of Canada. With the help of certain of the author-consultants, and with the co-operation of the MAC, the more remote mining regions will also be reached, according to present plans.

I have already mentioned the production of a textual and pictorial treatment of the progress of the industry towards environmental control. We hope that this document will satisfactorily convey to thousands of interested Canadians not only the progress the industry has made, but also a better understanding of some of our problems and our plans for the future.

As a member of the National Advisory Committee on Mining and Metallurgical Research, I urged the appointment, some months ago, of a Sub-committee on the Environment. My own thoughts on the matter were to an important extent motivated by the concern expressed by the Conference of Mines Ministers last year in regard to the co-ordination of environmental information, research and development related to the mining field.

I'm pleased to say that this Sub-committee has now been appointed. With representation from the Department of the Environment, as well as from industry, etc., it will be a highly valid body in respect of the development of recommendations pertinent to the technology of wastes control in this industry. Of at least equal importance, it will represent a spot upon which to assemble a documentation of current Canadian research and development in all phases of control, including reclamation.

With the co-operation of the MAC, a mining information system, based in the Mining Information Centre, Mines Branch, already operates and is rapidly increasing its environmental bank, in addition to mining technology.

We are progressively developing with Environment Canada a relationship which we hope will be mutually constructive to the cause at hand. Possibilities exist for the joint industry-government funding of research and development, and a beginning has already been made on the exploration of ways in which such co-operative plans might be found feasible:

As a sign of things to come:—

You may be familiar with the proposal to construct and operate, at Brunswick Mining and Smelting, a pilot plant for the purification of mine waste waters which would be, in fact, a demonstration unit for the benefit



of the many other Canadian mining operations involved with the mining and milling of sulphide ores. That is to say, operations with problems of acid and frequently metals-bearing waste waters.

On the basis of laboratory and other less-than-pilot-scale work, there is much evidence that a lime precipitation method, together with improved separation and polishing, can be made to yield a purified effluent of such purity as to represent the strongest evidence that salmon and metals mining can satisfactorily co-exist in the Province of New Brunswick.

This is also, I think, an excellent example of the "closing of the gap" between industry and governments, which I mentioned earlier in connection with waste embankments. Even more importantly, it represents a three-way co-operation in a matter of special regional or provincial import, and it would no doubt contain funding and expertise from the federal department, the province and the industry.

It is our understanding that industry will be well represented on certain working and advisory groups to be appointed within the mining and metallurgical section of the Environmental Protection Service. I emphasize **working**, because I understand that much detailed effort will be required in close studies of existing operations and methods of environmental control. It represents the kind of heads-together co-operation which breeds understanding ahead of regulation, and industry greatly welcomes it.

As an Association, we also welcome whatever co-operation with government may be possible and helpful in such exercises as the current "Inventory of Hazardous Pollutants".

And finally, gentlemen, and in a more general sense, I would like to suggest that the elements which have, to date, accomplished very substantial progress and compliance within the mining industry have been: (1) the development of awareness (of which the Resource Ministers' Conference of 1966 was one of the most significant, single thrusts); (2) the availability of worthwhile technology within the industry, and (3) substantial amounts of industrial capital. (Needless to say, I assume the presence throughout of the regulatory function.)

But I'm sure that few, if any of us can doubt that, whether in the mining industry or elsewhere, future efficiency in the attainment of proper environmental control—efficiency as associated with all parties involved—can be vastly improved through improving the degree of co-operation and understanding—understanding and co-operation (for either may come first) between all sectors, but I have chiefly in mind today industry and governments.

That is why I like the concept of industry representatives on effective government task forces and committees, both provincial and federal, dealing with environmental matters, short of legislation. And I don't foresee only defensive industry members but working and contributory ones, in groups which, willy-nilly, will be approaching understanding. I would not further presume to offer specific suggestions.

The Mining Association of Canada is, of course, composed of Members from all provinces, while its official concerns are those of nation-wide bearing.

But I would emphasize that where Mines Ministers are concerned we place great value indeed upon a liaison with you which, for example at this Conference, allows US to report and YOU to advise and suggest. There are numerous other, increasingly good reasons for our contact. We recognize and fully appreciate the co-operation which exists between industry and provincial environmental ministers in resolving the day-to-day problems of environmental control. I would again note that some environmental problems of the mining industry are primarily regional or localized—indeed, provincial in prime interest, but with geographically broader occurrence as well.

As to the future—in so far as the MAC is concerned, we will continue and, indeed, expect to increase our efforts within our terms of reference as an Association.

As to the industry at large, the nature and extent of its plans have been developed through an arduous survey carried out by the National Advisory Committee, which estimated an expenditure of \$450,000,000 or more during the period 1971-75 on environmental control measures.

This will represent a striving for and, I hope, an achievement of compliance which will be reasonable and right for all.

In a broader way, the mining industry—an industry producing \$4 billion worth of metals and minerals per year, generating employment for a million people, but occupying only 0.006% of Canada's land area—the mining industry will be increasingly conscious that it must demonstrate its ability to co-exist within an ecologic concept which is not yet definable, but which is likely to be demanding and towards which the paths are clear. I only hope that it will contain all of the best value judgments.

Thank you again, Mr. Chairman and Ministers, for this chance to assure you that The Mining Association of Canada will continue and will increase its efforts to help our large part of the industry in all ways possible and appropriate. On the same terms, we would offer our co-operation with yourselves.

COMMITTEE REPORTS,  
RECOMMENDATIONS  
AND  
RESPONSE BY THE MINISTERS

## REPORT OF COMMITTEE No. 1

### Mining Operations

CO-CHAIRMEN—MR. F. GOVER  
MR. G. JEWETT

#### A. Resume of New Legislation and Regulations

Newfoundland New Brunswick Saskatchewan	}	No new regulations
Alberta		
Nova Scotia Quebec		
Ontario		No report New Mining Act New Mining Regulations— January, 1972 New Pits and Quarries Control Act
Manitoba Quebec British Columbia	}	Provincial Acts under revision

Committee noted need to review Acts in relation to possible adoption of metric standards in Canada.

#### B. Non-Destructive Testing of Mine Hoist Ropes

- no commonly acceptable E-M device available.
- Committee proposes this subject to proposed for research to the National Advisory Committee for Mining and Metallurgical Research.

#### C. Report of Chief Inspectors' Sub-Committee

1. To ensure the safety of employees and to conform with the mining regulations of the provinces it is essential that the Explosives Division of the Department of Energy, Mines and Resources provide information regarding the fume characteristics of explosives for use underground. In view of this requirement the Chief Inspector's Sub-Committee respectfully requests that the following resolution be accepted by Committee No. 1 and that it be presented for the consideration of the Ministers of Mines:

"That the Ministers of Mines recommend to the Minister of Energy, Mines and Resources that the Canada Explosives Research Laboratory of the Mining Research Centre be expanded to establish acceptable fume classifications for all explosives and blasting agents for use underground."

—passed unanimously.

2. A need for regulation of mobile construction cranes was noted.

3. The need for further regulation of mobile equipment for underground use is noted and will be reported on by the committee in 1973.

4. Re-affirmed the resolution passed in 1971 in regard to the administration of Provincial Mining Acts.

#### D. Noise Control in Mining Operations

- no province ready to accept standards.
- Mining Association of Canada has a committee studying the matter and may report next year.

#### E. Diesel Equipment Standards for Underground

- Department of Energy, Mines and Resources prepared now to test equipment under full range of operating conditions and attest to standards of
  - flameproofness
  - exhaust emission evaluation

#### F. Laws with Regard to Drugs

- Saskatchewan
  - British Columbia
- } prohibit impairment
- all items referred for further study and report at 1973 meeting.

### RESPONSE BY THE MINISTERS OF MINES

Toronto, November 29, 1972

Item A. The Metric Commission established by the Federal Government was discussed. Each of the provinces will have the opportunity to participate in the Commission.

Item B. This item will be transmitted to the Minister of Energy, Mines and Resources.

Item C. The resolution was endorsed by the Ministers.

2. No comment.
3. Noted by the Ministers.
4. The Ministers agreed to the resolution reading:

"Therefore, the elaboration of safety rules and regulations, the safety inspections and the accident prevention work remain under the jurisdiction of the department of mines or such other designated provincial department or agency exclusively in each Canadian Province."

and the Chairman will so communicate with the Federal Government.

Item D. No comment.

Item E. Noted by the Ministers.

Item F. Agreed that this item be dropped from the Agenda.

Item G. Agreed with the exception of Item F.

## REPORT OF COMMITTEE No. 2

### Exploration and Development

CO-CHAIRMEN—MR. J. G. FREDETTE  
MR. J. E. GILBERT

#### A. Resume of New Legislation and Regulations

Ontario reported:

Amendments to the Mining Act effective June 30, 1972, the main provisions of which are summarized as follows:

- (1) Mining licences are now called Prospectors' licences.
- (2) Provision is made to allow Licences of Occupation to be converted to 21 year leases.



- (3) Where deep diamond drilling is done the credit for each foot of boring is increased to 1½ days per foot between 4,000 and 5,000 feet and to 2 days per foot beyond 5,000 feet and it is not necessary to obtain a grouping certificate to distribute the work.
- (4) Where beneficiation studies, analyses and other like work are recorded, the credits allowed must not exceed 60 days per claim.
- (5) A certificate of record may be obtained without benefit of a land survey after an inspection of the claims and the Mining Recorder is satisfied the provisions of the Act have been met upon payment of a fee of \$25.00 per claim.
- (6) Certain conditions concerning rents, types of leases, termination and regulation of leases are clarified.

All other provinces reported no new Legislation and regulations were adopted during the past year.

#### **B. Report of the ad hoc Committee on Mining Legislation**

The report of the ad hoc committee was read and tabled for reference and comment by Committee No. 2.

A motion was passed recommending that the report be accepted as read and that the work of the ad hoc committee be continued during next year.

A recommendation was also made that the chairmanship of the ad hoc committee be rotated from Province to Province every third year.

The committee extended its gratitude to Dr. P. Grenier for his services as chairman during the past three years.

#### **C. New Geophysical Techniques—Continuing Report on High Sensitivity Surveys**

The G. S. C. reported that it is continuing to test airborne high sensitivity magnetic and gamma ray spectrometer survey methods. It is too early yet to fully evaluate the results of these surveys because of difficulties involved in processing data. However, the first maps showing some results should be available late in 1972.

#### **D. Report of Canadian Centre for Geoscience Data—Utilization of Computers**

The activities of the Centre were discussed at length and it was again mentioned that some provinces are still not participating in the National program. It was, therefore, moved that the Committee recommend that those provinces who are not participating reconsider their positions so as to improve the capability of the Centre.

#### **E. Report on Joint Federal-Provincial Airborne Surveys**

It was reported that the regional airborne magnetic survey program is still continuing but that most of Canada has now been covered.

#### **F. Tax Change Effect on Exploration—Continuing Study**

Since item B of Committee No. 3 dealt with the effects of tax change on exploration, a joint meeting of Committees Nos. 2 and 3 took place. The results of this meeting are included in the report of Committee No. 3.

#### **G. New Items**

##### **(a) Geochemical Studies**

The Committee recommended for inclusion in next year's agenda discussion of geochemical studies, specifically:

1. Laboratory reference standards;
2. Analytical methods—reliability, etc.;
3. Joint Federal-Provincial surveys;
4. Role of geochemistry in exploration; and
5. Role of geochemistry in environmental studies. (in co-operation with Committee No. 4)

##### **(b) Submission of Results of Exploration Work**

The compulsory submission of the results of all exploration work was discussed at length, and the following motion was adopted for consideration by the Conference:

"That the Ministers of Mines take steps to establish a task force of Committee No. 2 to conduct further studies and investigations of problems involved in the compulsory and voluntary submission of exploration work data to government agencies for optimum benefit, the task force to be made up of an equal number of representatives of the Provinces and industry".

It is proposed that a report of the task force be submitted at next year's meeting.

##### **(c) Effects of Federal Government investment and trade policies on Mineral Exploration**

Following a discussion of this matter, a resolution was passed that

"the Provincial Ministers of Mines consider a discussion of removal of Federal government restrictions on investment and export of minerals currently having adverse effects on exploration activities in the Provinces".

#### **RESPONSE BY THE MINISTERS OF MINES**

**Toronto, November 29, 1972**

Item A. Noted.

Item B. It was agreed that the ad hoc Committee be chaired by a representative from Manitoba.

Item C. No comment.

Item D. Each of the non-participating provinces to reassess its position with respect to the index and report to the Deputies' May meeting.

Item E. No comment.

Item F. See report on Committee No. 3

Item G. (a) Referred to Agenda Committee meeting in May.

(b) The Ministers established a committee consisting of a government representative from each Province to be chaired by the Quebec representative. The committee would meet and determine terms of reference and objectives and report to the May meeting of Deputy Ministers.

- (c) In considering the resolution it was modified to read:

"the Provincial Ministers of Mines recommend that the Federal government have prior consultation with each of the Provinces before implementing any action or regulation on investment and export of minerals."

## REPORT OF COMMITTEE No. 3

### Royalties, Taxation and Tariffs

CO-CHAIRMEN—DR. J. T. FYLES

MR. C. A. PERRY

#### Item A—Resume of New Legislation and Regulations

Ontario reported:

1. That Bill 197, which has been introduced into the Legislature, does not change the principle or the philosophy of the old Act, but does up-date it in terms of administrative practice and interpretation.

Manitoba reported:

1. No changes in the Mining Royalty and Tax Act.

2. A change in the Revenue Tax Act which eliminated the exemption from tax of production machinery and equipment effective May 1, 1972. A number of consumables have been declared to be "direct agents" and therefore exempt from tax when used exclusively in the manufacture, processing or refining of ore.

3. An imposition of a mineral acreage tax to come into force by proclamation and to apply to 1973 and subsequent years. The tax rate will be 10 cents per acre but will not apply to minerals located within a producing area which are taxed under the Mineral Taxation Act. Where title to both mineral and surface rights is vested in a farmer, no tax is payable by the farmer, provided that the land is used by him for farming.

Saskatchewan reported:

1. The Mineral Acreage Tax has been increased from 10 cents to 20 cents per acre. The tax now applies to individual holdings in excess of 3,200 acres as well as to all corporate holdings.

2. An adjustment has been made to provincial revenues from production of potash by levying a prorationing fee at the rate of 60 cents per ton of potash product.

Alberta reported:

1. An increase in the royalties on oil production effective January 1, 1973. Regulations governing the change have not yet been promulgated.

Other provinces reported:

No change.

#### Item B—Review of Federal Income Tax Act and Its Effect on Mineral Development and Exploration

1. The Committee approved the following resolution for consideration by the Ministers:

WHEREAS—the continuing success and growth of

the mining industry is of the utmost importance to the Canadian economy, and

WHEREAS—the present contribution of the mining industry has been encouraged by two major income tax incentives too the industry, namely a three-year tax exemption for new mines and a  $33\frac{1}{3}\%$  depletion allowance, and

WHEREAS—the three-year exemption is to be replaced by accelerated capital cost allowance provisions and the  $33\frac{1}{3}\%$  depletion allowance is to be replaced by a depletion allowance based upon 'eligible' expenditures, and

WHEREAS—this Committee has at previous Conferences expressed its concern that the new incentives are both inadequate and too narrow in definition, and WHEREAS—at the 28th Annual Conference the Ministers of Mines approved a resolution of this Committee recommending revisions to the incentive measures, and

WHEREAS—regulations to the Income Tax Act promulgated on July 27, 1972 have given little recognition to the resolution approved by the Ministers of Mines. THEREFORE—be it resolved that the Mines Ministers be respectfully requested to make representation to the federal government to revise the Income Tax Act and Regulations as follows:

#### Accelerated Capital Cost Allowance

- (i) that assets reasonably attributable to bringing a mine into production and acquired before **or within a reasonable period after** commencement of production be eligible.
- (ii) that assets reasonably attributable to a major expansion whereby in **the case of a mine, measured in tons of output of mineral ore** or, in case of a mill, measured in tons of input of mineral ore, such output or input as the case may be was not less than 25% greater in the year immediately following the expansion than it was in the year immediately preceding the expansion, and acquired before **or within a reasonable period after** completion of the expansion be eligible.
- (iii) expenditures on social and industrial infrastructures in connection with a major expansion be eligible.

#### Earned Depletion

- (i) all explorations and development expenditures incurred in searching for minerals in Canada should qualify as eligible expenditures.
- (ii) all development expenditures relating to a major expansion of a mine should qualify as eligible expenditures.
- (iii) all expenditures on social and industrial infrastructures should qualify to earn depletion.
- (iv) all expenditures from November 7, 1969 on processing facilities should qualify as eligible expenditures.



(v) the 33 $\frac{1}{3}$ % of resource profits limitation in utilizing earned depletion in a year be either dropped or calculated as a percentage of income before deduction of exploration and development expenses.

2. The effects of the depletion allowance under tax legislation on the coal mining industry was discussed in Committee No. 3 since the Committee on Coal has not been reconstituted. The Coal Association of Western Canada propose to clarify the rules governing the application of depletion allowances to coal mining through direct correspondence with the Federal Department of Finance.

#### **Item C—Incentives to Industry Through Tax Exemptions or Otherwise on Costs for Pollution Control and Treatment**

Committee No. 3 adopted a resolution at the 28th Annual Conference in 1971, requesting the Mines Ministers to recommend to their colleagues that provincial sales taxes be withdrawn on equipment and structures used in pollution control. The Ministers noted the resolution.

During the current meetings of Committee No. 3, it was reported that Quebec has exempted from sales tax buildings and equipment used for water pollution control.

It was also reported that Ontario now refunds sales tax on certain items used for pollution control.

Manitoba indicated that the matter of incentives with respect to pollution control was under study in an area separate from taxation.

#### **Item D—Report of Sub-Committee on Mineral Statistics**

The report of the sub-committee, a copy of which is appended, was received from Dr. Nowlan. The report was discussed briefly by the Committee and approved for transmission to the Ministers.

The sub-committee recommended that:

(I) the work of the Task Force on Mineral Valuation continue along the lines suggested, and that each province, industry association and federal organization on the Task Force be asked to continue to participate, and

(II) Statistics Canada continue to publish exploration expenditure data, and that an effort be made to finalize the preparation of related employment data at an early date.

#### **Item E—Report of Task Force on Mineral Valuation**

The report of the Task Force, a copy of which is appended, was received from Dr. Nowlan and approved for transmission to the Ministers.

The attention of the Ministers is drawn to the first recommendation of the Task Force which offers two alternatives for the development of the methodology for the deflation of the proposed current series. It is clear that the second alternative at least, involving the retention of consultants, would require funding through the Mines Ministers Conference.

## **NEW BUSINESS**

### **1. Proposed Agenda Committee**

It is recommended by the Committee that consideration be given by the Ministers for the development of procedures for the improvement of the effectiveness of the work of the Committee. The following suggestions are submitted for consideration:

(1) establishing a standing Agenda Committee to receive agenda items for Committee No. 3 and to review such items and develop considered views for presentation at each Annual Conference.

(2) to circulate to members of Committee No. 3 copies of the agenda with brief summaries of the implications of each agenda item, together with proposed resolutions, sometime prior to each Annual Conference.

### **2. Joint Meeting with Committee No. 2 on Tax Change Effect on Exploration**

Members of Committee No. 2 met with Committee No. 3 to review the effect of tax changes on exploration. The resolution, submitted under Item B, was read to the joint meeting. There was a brief discussion of the resolution, but no modifications to the resolution or new resolutions were proposed.

## **REPORT TO COMMITTEE NO. 3 of the PROVINCIAL MINISTERS OF MINES CONFERENCE from the SUB-COMMITTEE ON MINERAL STATISTICS**

The continuing Sub-Committee on Mineral Statistics met on Sunday, September 10, 1972. Nineteen delegates participated. The Provinces of Alberta, British Columbia, Newfoundland, New Brunswick, Nova Scotia, Ontario and Quebec, the Mining Association of Canada, the Ontario Mining Association, Statistics Canada, and the Federal Department of Energy, Mines and Resources were represented. The main items of business concerned the activities of the Task Force on Mineral Evaluation and the survey of exploration expenditures.

The Task Force on Mineral Valuation was formed as a result of Resolution No. 6 by Ministers at the 1970 Conference. The Sub-Committee reviewed the Task Force's report (a copy of which is attached) along with other detailed working papers. There was considerable discussion pertaining to the concept of mineral evaluation, to possible points of valuating at various stages in the mineral system, to the commodity composition of mineral production, and to differences between the mineral commodity and mineral industry production series. The Sub-Committee agreed to accept the recommendations of the Task Force as working principles. Statistics Canada agreed to test the viability of the principles and has drafted new questionnaires for some commodities. Their implementation possibilities will be discussed with selected



companies, and a report will be made to the Sub-Committee in September, 1973. Moreover, the Task Force would continue to work on these and other conceptual problems related to mineral valuations and the development of an overall framework within which the mineral industry and its products would be defined in detail. The Sub-Committee noted the complexity of the problem and acknowledged the efforts of individuals and the increase in resources assigned to the problem by the organizations represented on the Task Force. Definite progress has been made.

The exploration expenditures survey, a project initiated at the 1965 Conference, was discussed based on the tables for 1969, 1970 and 1971 prepared by Statistics Canada. Copies are attached. Statistics Canada reported a 95% response from companies canvassed in 1971 compared with 1970. While response on expenditures is very good, data on related employment is less satisfactory and will only become available for the first time for the year 1971 in 1973. Statistics Canada was asked to continue publishing expenditure data in co-operation with the provinces and industry, and to finalize data and procedures for exploration employment.

The Sub-Committee noted that overall exploration, development, and capital expenditures by mining and exploration companies increased 31% to \$1.4 billion in 1971 over 1970. However, the level of off-property exploration declined 31% to \$90 million in 1971 from \$118 million in 1970 and \$99 million in 1969. Considerable detail by province and industry is contained in the tables. There is no information on changes in exploration expenditures by the industry in foreign countries, and it was felt that if at all possible data concerning the trend of these should be gathered.

### Recommendations

- (1) The Sub-Committee recommends that the work of the Task Force on Mineral Valuation continue along the lines suggested, and that each province, industry association, and federal organization on the Task Force be asked to continue to participate.
- (2) The Sub-Committee recommends that Statistics Canada continue to publish exploration expenditure data, and that an effort be made to finalize the preparation of related employment data at an early date.

### REPORT OF TASK FORCE ON MINERAL VALUATION

The Task Force was formed as a result of resolution No. 6 of the 1970 Mines Ministers' Conference at Winnipeg. At the 1971 Mines Ministers' Conference, the Task Force established a Working Group consisting of representatives from Ontario, Quebec, the Federal Department of Energy, Mines and Resources, and Statistics Canada.

The Group met in three working sessions and a report was submitted to the Task Force. The Task Force reviewed the report and arrived at the following conclusions and recommendations:

1. The Task Force wishes to emphasize that a constant dollar series would be a valuable addition to the proposed mineral production statistics, but recognizes that considerable work is required to develop the methodology for deflation. The Task Force recommends two alternative solutions to this problem:
  - (a) Statistics Canada develop the methodology for deflation of the proposed current series.
  - (b) Consultants be retained to develop the methodology for deflation of the proposed current series in consultation with the departments or agencies of the Task Force.

### 2. Mineral Valuation

- (a) Value of mineral production for non-integrated producers should be the net smelter return less transportation cost paid to a common carrier. For integrated operations the value of mineral output is deemed to be the cost of mineral output at the mine/mill stage plus value added at smelting and refining stages.

The profits accruing on the overall integrated operations should be allocated to each stage of operations, i.e. mine/mill, smelter/refinery.

- (b) For the production commodity series the value of trace elements for which the producer receives no payment and which are recovered at the smelter/refinery will be credited to the mine output of the province in which the smelter/refinery is located.

### 3. Mineral Production

The output of mine/mill operations is deemed to be ores and concentrates and other mine/mill products such as bullion, slag, etc. Metals are considered to be products of the smelter/refinery operations. Consequently the mine/mill output should be considered as the value of ores and concentrates while the value of metals is the output of the smelter/refinery operations.

The Working Group has reviewed some of the annual Census of Mines questionnaires and the Task Force recommends that the proposed changes be implemented.

4. The Task Force recommends that it be directed to continue its mandate to finalize the work assigned by the Mines Ministers' Conference.

The Task Force regrets that British Columbia again this year failed to participate in its proceedings.

E. E. Matten  
A. Godbout  
Co-Chairmen, Task Force on Mineral Valuation  
August 16, 1972

EXPLORATION, DEVELOPMENT AND CAPITAL AND REPAIR EXPENDITURES  
by

MINING AND EXPLORATION COMPANIES(1)

CANADA — BY PROVINCE

1971 Preliminary Final

(millions of dollars)

	Capital Construction			Sub-total	Capital Machinery and Equipment	Repair Construction	Repair Machinery and Equipment	Total Capital and Repair	Outside or General Exploration	Land and Mining Rights
	On-property Exploration	On-property Development	Structures							
Atlantic Provinces (2)	(3)	(3)	(3)	80.9	29.2	5.5	49.8	165.4	3.1	—
Quebec	5.4	32.3	156.2	193.9	55.4	8.7	69.7	327.7	11.4	2.8
Ontario	8.6	72.3	43.6	124.5	92.0	18.5	119.0	354.0	21.2	2.4
Manitoba	4.1	17.9	8.3	30.3	9.6	4.6	14.7	59.2	9.3	—
Saskatchewan	—	4.8	1.9	6.7	5.9	3.6	18.8	35.0	5.6	—
Alberta	(3)	(3)	(3)	8.4	7.4	0.4	6.3	22.5	4.2	0.5
British Columbia	3.8	32.6	173.3	209.7	138.9	3.6	53.8	406.0	26.2	1.3
Yukon and Northwest Territories	1.5	13.6	5.5	20.6	5.5	1.0	14.1	41.2	9.3	0.4
Canada	26.1	194.6	454.3	675.0	343.9	45.9	346.2	1,411.0	90.3	7.4

(1) These figures do not include outlays in the petroleum and natural gas industry (See Crude Petroleum and Natural Gas Industry, Catalogue No. 26-213, Table 6). Smelting and refining are included in the manufacturing industry (See Private and Public Investment, Catalogue No. 61-205, Table 3).

(2) The provinces have been grouped because of the confidentiality clause of the Statistics Act.

(3) The breakdown of capital construction for the Atlantic Provinces and Alberta is not available due to the confidentiality clause of the Statistics Act, but is included in the Canada totals.

Prepared in the Business Finance Division, Statistics Canada, Ottawa.

# EXPLORATION, DEVELOPMENT AND CAPITAL AND REPAIR EXPENDITURES

by

## MINING AND EXPLORATION COMPANIES(1)

### CANADA — BY TYPE OF MINING

1971 Preliminary Final

(millions of dollars)

	Capital Construction			Sub-total	Capital Machinery and Equipment	Repair Construction	Repair Machinery and Equipment	Total Capital and Repair	Outside or General Exploration	Land and Mining Rights
	On-property Exploration	On-property Development	Structures							
Metals: — Total .....	20.9	170.2	396.7	587.8	239.4	38.5	241.2	1,106.9	15.9	0.7
Gold .....	0.4	6.8	2.2	9.4	2.4	0.5	3.9	16.2	1.2	—
Copper-Gold-Silver .....	5.2	52.2	156.0	213.4	127.7	4.9	43.7	389.7	3.4	0.5
Silver-Lead-Zinc .....	2.8	12.6	3.2	18.6	7.3	1.6	15.3	42.8	2.1	—
Uranium .....	—	3.8	0.3	4.1	1.9	1.3	4.2	11.5	1.8	—
Iron Mines .....	(4)	(4)	(4)	(4)	31.1	11.1	85.3	(4)	0.6	—
Other Metals (2) .....	12.5	94.8	235.0	342.3	69.0	19.1	88.8	646.7	6.8	0.2
Non-Metals: — Total .....	4.4	22.9	57.4	84.7	104.1	7.4	104.9	301.1	3.4	4.9
Asbestos .....	2.7	14.2	19.4	36.3	29.4	1.8	35.3	102.8	0.3	(5)
Potash and other misc. non-metal — S.I.C. 0790 .....	0.2	3.5	2.9	6.6	12.0	3.4	19.5	41.5	0.2	(5)
Misc. mining (3) .....	1.5	5.2	35.1	41.8	62.7	2.2	50.1	156.8	2.9	(5)
Metal and Non-Metal Exploration Co's. ....	0.8	1.5	0.2	2.5	0.4	—	0.1	3.0	71.0	1.8
Total Mining .....	26.1	194.6	454.3	675.0	343.9	45.9	346.2	1,411.0	90.3	7.4

(1) These figures do not include outlays in the petroleum and natural gas industry (See Crude Petroleum and Natural Gas Industry, Catalogue No. 26-213, Table 6). Smelting and refining are included in the manufacturing industry (See Private and Public Investment, Catalogue No. 61-205, Table 3).

(2) Includes nickel-copper mines, silver-cobalt mines and all other metal mines.

(3) Includes coal mines, gypsum mines, salt mines and quarrying.

(4) Some data for iron mines are not available due to the confidentiality clause of the Statistics Act. These figures have been included in the Other Metals group.

(5) The expenditures for land and mining rights in the Non-metals category have not been broken down because of the confidentiality clause of the Statistics Act.

Prepared in the Business Finance Division, Statistics Canada, Ottawa.



# EXPLORATION, DEVELOPMENT AND CAPITAL AND REPAIR EXPENDITURES

by

## MINING AND EXPLORATION COMPANIES(1)

### CANADA — BY PROVINCE

1970 Final

(millions of dollars)

	Capital Construction			Sub-total	Capital Machinery and Equipment	Repair Construction	Repair Machinery and Equipment	Total Capital and Repair	Outside or General Exploration	Land and Mining Rights
	On-property Exploration	On-property Development	Structures							
Newfoundland .....	0.4	4.8	4.8	10.0	7.8	4.6	39.6	62.0	3.7	—
Prince Edward Island .....	—	—	—	—	—	—	—	—	—	—
Nova Scotia .....	0.2	0.9	1.6	2.7	3.7	0.2	7.0	13.6	0.8	0.6
New Brunswick .....	1.4	4.4	1.6	7.4	4.7	0.2	2.6	14.9	1.9	0.1
Quebec .....	3.2	33.4	24.7	61.3	40.8	9.2	64.1	175.4	8.8	2.1
Ontario .....	10.7	70.8	42.6	124.1	79.6	17.5	118.4	339.6	32.2	0.5
Manitoba .....	4.6	33.4	11.0	49.0	16.6	4.0	12.0	81.6	9.8	—
Saskatchewan .....	0.1	6.7	9.0	15.8	25.0	2.6	17.8	61.2	6.6	0.3
Alberta .....	(2)	(2)	(2)	18.5	17.8	0.5	7.7	44.5	2.5	0.1
British Columbia .....	3.1	60.8	69.6	133.5	63.2	3.7	42.0	242.4	37.4	0.9
Yukon and Northwest Territories .....	2.0	11.9	7.3	21.2	7.0	1.2	8.9	38.3	15.1	0.4
Canada .....	25.7(3)	227.1(3)	172.2(3)	443.5	266.2	43.7	320.1	1,073.5	118.8	5.0

(1) These figures do not include outlays in the petroleum and natural gas industry (See Crude Petroleum and Natural Gas Industry, Catalogue No. 26-213, Table 6). Smelting and refining are included in the manufacturing industry (See Private and Public Investment, Catalogue No. 61-205, Table 3).

(2) The breakdown of capital construction for Alberta is not available due to the confidentiality clause of the Statistics Act.

(3) These totals are understated because of the confidentiality problem outlined in Footnote 2.

Prepared in the Business Finance Division, Statistics Canada, Ottawa.

EXPLORATION, DEVELOPMENT AND CAPITAL AND REPAIR EXPENDITURES  
by  
MINING AND EXPLORATION COMPANIES(1)  
CANADA — BY TYPE OF MINING

1970 Final

(millions of dollars)

	Capital Construction			Capital Machinery and Equipment	Repair Construction	Repair Machinery and Equipment	Total Capital and Repair	Outside or General Exploration	Land and Mining Rights
	On-property Exploration	On-property Development	Structures						
			Sub-total						
Metals: — Total .....	22.5	185.1	124.5	332.1	148.9	220.0	737.6	25.1	0.7
Gold .....	0.5	9.3	1.5	11.3	2.2	3.5	17.5	3.7	—
Copper-Gold-Silver .....	4.7	66.8	65.1	136.6	47.3	34.6	223.4	7.5	0.3
Silver-Lead-Zinc .....	2.9	10.0	3.2	16.1	6.5	12.5	36.7	3.5	0.2
Uranium .....	—	4.6	1.0	5.6	0.8	5.0	12.0	1.5	—
Iron Mines .....	0.4	20.4	9.1	29.9	20.7	81.6	143.4	0.5	0.2
Other Metals (2) .....	14.0	74.0	44.6	132.6	71.4	82.8	304.6	8.4	—
Non-Metals: — Total .....	2.1(4)	40.3(4)	47.0(4)	107.9	115.9	7.1	330.8	3.1	2.4
Asbestos .....	1.1	10.6	18.2	29.9	29.7	1.7	92.6	0.3	1.8
Potash and other misc. non-metal S.I.C. 0790 .....	0.3(4)	4.5(4)	10.0(4)	15.0	29.5	2.4	66.1	0.5	0.6
Misc. mining (3) .....	0.7(4)	25.2(4)	18.8(4)	63.0	56.7	3.0	172.1	2.3	—
Metal and Non-Metal Exploration Co's. ....	1.1	1.7	0.7	3.5	1.4	—	5.1	90.6	1.9
Total Mining .....	25.7(4)	227.1(4)	172.2(4)	443.5	266.2	43.7	1,073.5	118.8	5.0

(1) These figures do not include outlays in the petroleum and natural gas industry (See Crude Petroleum and Natural Gas Industry, Catalogue No. 26-213, Table 6). Smelting and refining are included in the manufacturing industry (See Private and Public Investment, Catalogue No. 61-205, Table 3).

(2) Includes nickel-copper mines, silver-cobalt mines, and all other metal mines.

(3) Includes coal mines, gypsum mines, salt mines and quarrying.

(4) Due to problems with the confidentiality clause of the Statistics Act in Alberta (see table of Mining — By Province), the figures in columns 1, 2 and 3 are understated but are included in column 4 (total capital construction).

Prepared in the Business Finance Division, Statistics Canada, Ottawa.

# EXPLORATION, DEVELOPMENT AND CAPITAL AND REPAIR EXPENDITURES

by

## MINING AND EXPLORATION COMPANIES(1)

### CANADA — BY PROVINCE

1969 Final

(millions of dollars)

	Capital Construction			Sub-total	Capital Machinery and Equipment	Repair Construction	Repair Machinery and Equipment	Total Capital and Repair	Outside or General Exploration	Land and Mining Rights
	On-property Exploration	On-property Development	Structures							
Newfoundland .....	0.4	2.3	4.2	6.9	5.8	2.5	33.6	48.8	1.8	N.A.
Prince Edward Island .....	—	—	—	—	—	—	—	—	—	N.A.
Nova Scotia .....	0.1	0.8	1.8	2.7	3.5	1.5	5.7	13.4	0.5	N.A.
New Brunswick .....	2.2	5.0	5.4	12.6	9.3	0.2	2.2	24.3	2.3	N.A.
Quebec .....	12.9	25.5	19.6	58.0	25.1	7.2	54.6	144.9	14.2	N.A.
Ontario .....	9.6	51.1	16.3	77.0	50.2	21.0	76.0	224.2	22.6	N.A.
Manitoba .....	3.5	23.6	17.6	44.7	17.9	4.2	8.4	75.2	7.9	N.A.
Saskatchewan .....	0.2	12.8	24.9	37.9	38.5	6.5	13.4	96.3	8.3	N.A.
Alberta .....	1.7	3.6	19.8	25.1	18.0	0.3	1.3	44.7	0.5	N.A.
British Columbia .....	5.2	32.7	88.7	126.6	37.0	2.5	23.1	189.2	28.4	N.A.
Yukon and Northwest Territories .....	2.1	7.7	21.9	31.7	6.8	0.6	8.0	47.1	12.3	N.A.
Canada .....	37.9	165.1	220.2	423.2	212.1	46.5	226.3	908.1	98.8	N.A.

(1) These figures do not include outlays in the petroleum and natural gas industry (see Crude Petroleum and Natural Gas Industry, Catalogue No. 26-213, Table 6). Smelting and Refining are included in the manufacturing industry (see Private and Public Investment, Catalogue No. 61-205, Table 3).

Prepared in the Business Finance Division, Statistics Canada, Ottawa.



# EXPLORATION, DEVELOPMENT AND CAPITAL AND REPAIR EXPENDITURES

by

## MINING AND EXPLORATION COMPANIES(1)

### CANADA — BY TYPE OF MINING

1969 Final

(millions of dollars)

	Capital Construction			Sub-total	Capital Machinery and Equipment	Repair Construction	Repair Machinery and Equipment	Total Capital and Repair	Outside or General Exploration	Land and Mining Rights
	On-property Exploration	On-property Development	Structures							
Metals: — Total	27.9	134.7	122.1	284.7	95.3	35.8	160.8	576.6	10.5	N.A.
Gold	2.5	11.1	1.9	15.5	4.1	0.8	5.5	25.9	1.0	N.A.
Copper-Gold-Silver	7.5	37.9	58.8	104.2	21.5	5.1	27.8	158.6	2.0	N.A.
Silver-Lead-Zinc	3.2	12.8	23.3	39.3	13.5	1.4	11.8	66.0	1.5	N.A.
Uranium	—	8.9	2.6	11.5	1.0	0.9	4.7	18.1	1.3	N.A.
Iron Mines	0.3	13.3	12.8	26.4	12.3	8.4	71.0	118.1	1.0	N.A.
Other Metals (2)	14.4	50.7	22.7	87.8	42.9	19.2	40.0	189.9	3.7	N.A.
Non-Metals: — Total	4.4	27.1	96.7	128.2	113.9	10.7	65.1	317.9	1.2	N.A.
Asbestos	1.3	7.0	4.7	13.0	15.8	1.3	27.0	57.1	0.4	N.A.
Potash and other misc. non-metal — S.I.C. 0790	0.1	10.5	23.7	34.3	47.2	5.9	13.3	100.7	0.7	N.A.
Misc. Mining (3)	3.0	9.6	68.3	80.9	50.9	3.5	24.8	160.1	0.1	N.A.
Metal and Non-Metal Exploration Co's.	5.6	3.3	1.4	10.3	2.9	—	0.4	13.6	87.1	N.A.
Total Mining	37.9	165.1	220.2	423.2	212.1	46.5	226.3	908.1	98.8	N.A.

(1) These figures do not include outlays in the petroleum and natural gas industry (see Crude Petroleum and Natural Gas Industry, Catalogue No. 26-213 — Table 6). Smelting and Refining are included in the manufacturing industry (see Private and Public Investment, Catalogue No. 61-205, Table 3).

(2) Includes nickel-copper mines, silver-cobalt mines and all other metal mines.

(3) Includes coal mines, gypsum mines, salt mines and quarrying.

Prepared in the Business Finance Division, Statistics Canada, Ottawa.

## RESPONSE BY THE MINISTERS OF MINES

Toronto, November 29, 1972

Item A. No comment.

Item B. 1. After some discussion the Ministers decided to refer the resolution to their respective Finance Ministers.

2. No comment.

Item C. The Ministers decided that this item could be referred to the provincial departments involved.

Item D. The Ministers were in agreement with items (i) and (ii) and in view of Dr. Nowlan's intending retirement, his successor would continue as Chairman.

Item E. The report was accepted by the Ministers.

## NEW BUSINESS

Item 1. Referred to the Agenda Committee meeting in May.

## REPORT OF COMMITTEE No. 4 —Interim Report

### Mining and the Environment

CO-CHAIRMEN—DR. J. P. NOWLAN  
MR. R. L. BISHOP

#### Item A—Legislation and Regulations

Each province reviewed new environmental control legislation that was of interest to the committee's deliberations.

It was noted that most provinces now had developed or had under consideration "Clean Environment Acts" and that the provincial administrative trend was the establishment of "Provincial Departments of the Environment".

It was also noted that these new departments embraced "Water Resources Commissions" to form comprehensive "water, air, solids" environmental legislation while providing for advisory committees to the Minister of the department.

It was noted that the new legislation required industry to obtain a licence to discharge fluids and/or solids to the environment.

Industry spokesmen were concerned that in developing legislation, government authorities were not consulting the affected mining industry in a meaningful way. Industry stressed that they wished to co-operate but felt they should be given every opportunity to participate in developing such important legislation and/or regulations.

#### Item B. Review of Compatibility of Mine and Mill Water Control Regulations

It was noted that industry requested that governmental authorities—Federal, Provincial and Municipal—get together and define within reasonable bounds their respective fields of jurisdiction in so far as control of

the environment was concerned. In general discussion it was pointed out that there were areas that need the immediate constructive attention of environmental authorities:

- (1) In establishing standards such standards should be established through reasonably identical methods within and between provinces;
- (2) That provincial environmental standards and regulations should be uniform across Canada;
- (3) That practical technological requirements should be obtained through consultation between Federal, Provincial and Industrial authorities;
- (4) That points of measurement of standards should be clearly indicated;
- (5) That meaningful research be conducted before establishment of federal and/or provincial standards; and
- (6) That the Federal government be asked to have environmental spokesmen at the next Conference to discuss federal plans and their policy position.

#### Item C. Public Relations

It was noted and stressed that the public image of the mining industry can best be obtained by

- (1) directing the main thrust of attention to the local level;
- (2) directing thrust of P. R. programs to the opinion makers at
  - (a) local level;
  - (b) Provincial level; and
  - (c) Federal level.
- (3) including all types of media in obtaining the desired results;
- (4) Industry and government including in their annual budgets a P. R. component having regard to the responsibility of improving the mining industry's public image.

#### Item D.

As Dr. Roots was not in attendance, no report on the Stockholm Conference was received.

#### Item E. Air Pollution

The Committee emphasized the importance of close co-operation between Provincial Government agencies in the administration of air pollution detection and control services. Disjointed approaches to industry on these matters has led to confusion and inefficiencies in the solving of such environmental control problems.

The Committee recommends therefore that the Mines Ministers make every effort to encourage close co-operation between all Provincial Government agencies, more especially resource and environment departments, involved in administration of pollution control activities that affect the mining industry.

**Item F.**

Appreciation of the work done by E.M.R. in preparing the booklet on design of Mine Waste Embankments was expressed and endorsed by the Committee. It was agreed, however, that further work in regard to solid mine waste disposal and reclamation was needed and to this end two resolutions were passed.

**Resolution No. 1**

WHEREAS we live in an energy demanding society and it is essential to mine coal, a valuable source of energy;

WHEREAS our Canadian coal producers recognize the need for reasonable and practical environmental and fire protection requirements;

WHEREAS there is a vital need for a special thrust in the research and development of species of vegetation required for reclamation at various altitudes and soil conditions:

THEREFORE be it resolved that the Provincial Ministers of Mines here assembled be respectfully requested that there be instituted an integrated program to utilize the vast resources of the provincial forestry branches and federal research agencies in an effort designed to assist industry to meet their responsibility in protecting the environment.

**Resolution No. 2**

WHEREAS the reclamation of waste embankments resulting from base metal and other mining operations involves a somewhat different approach than does reclamation of coal mine waste embankments:

THEREFORE be it resolved that an effort similar to that requested in the case of coal mines be instituted through the aegis of the Federal Department of Energy, Mines and Resources to determine the most effective means of reclaiming and revegetating such waste and tailings disposal areas.

**Item G.**

The work being done by the Mining Association of Canada was noted as well as the reply to that Association following the November 1971 meeting of the Ministers of Mines.

**New Business**

The question was raised as to larger representation by organized labour in the Conference of Provincial Mines Ministers. Comment from the floor was to the effect that all attendance is by invitation of the respective Provincial Ministers whose prerogative it is to invite delegates of their choice.

**RESPONSE BY THE MINISTERS OF MINES**

**Toronto, November 29, 1972**

- Item A. Noted by the Ministers.
- Item B. The Ministers recognized the concern expressed in Items B and E which will be discussed with other provincial departments involved and the matter finally referred to the provincial Premiers for their consideration. With regard to clause (2) of Item B, doubt was expressed whether uniformity would be desirable and clause (6) of Item B was rejected by the Ministers.
- Item C. Noted by the Ministers.
- Item E. Noted by the Ministers.
- Item F. Resolution No. 1 was left with each Mines Minister to deal with branches concerned. The Ministers endorsed Resolution No. 2 and the Chairman would extend the invitation to the Federal department.
- Item G. Noted by the Ministers.

**NEW BUSINESS**

The Ministers concurred in the comment.

**REPORT OF COMMITTEE No. 5**

**Petroleum and Natural Gas**

CO-CHAIRMEN—H. H. SOMERVILLE  
M. J. GOBERT

Your Committee met on September 11 and 12, 1972, and its study groups met on occasions during the year.

Government representatives gave a resume of new legislation and procedures enacted in their jurisdictions.

Reports on study groups were received on the following:

- (a) Review of Emergency Oil Spill Cleanup
- (b) Review of Model Unit Agreement and Model Unit Operating Agreement
- (c) Review of World Offshore Oil and Gas Operations
- (d) Gas Pricing
- (e) Right of Entry Procedures

Reports on the above will be distributed to governments and industry.

The Agenda Committee operating under Committee No. 5 will deal with the following during the ensuing year:

- (a) review of co-operative agreements for oil spill contingency plans in Canada and current contingency planning,
- (b) review of existing legislation and procedures on use of surface and groundwater for oil and gas production and processing,
- (c) disposal of waste products into underground formations, and



- (d) other items coming before the Agenda Committee from government and industry during the ensuing year.

Your Committee recommends its continuation as a standing Committee.

## RESPONSE BY THE MINISTERS OF MINES

Toronto, November 29, 1972

The Ministers accepted the report and the recommendation that the Committee continue as a standing Committee.

It was agreed that Mr. Hing Lee would give further consideration to the compilation of an index on Canadian research projects relating to oil and gas drilling and production problems and would explore the possibility of obtaining the services of a consultant for this project so that a decision could be made at the Deputies' May meeting regarding a recommendation.

## REPORT OF COMMITTEE No. 6

### Education and Manpower

CHAIRMAN—MR. J. WOTHERSPOON

#### A. Progress in Getting Satisfactory Earth Science Courses and Canadian Textbooks in Secondary Schools.

Mr. Roger Blais, Chairman of the Geoscience Council of Canada very capably related to the committee of the past attempts of the Geological Association of Canada to get satisfactory Earth Science courses and textbooks established for secondary schools. He also related the present status of earth science courses in secondary schools.

After some discussion on this subject the following recommendations were proposed.

It is recommended that:

1. The Ministers of Mines ask the Ministers of Education in their respective provinces to appoint a suitably qualified Coordinator to assist in the preparation of, pamphlets or monographs on Earth Science, Mining and Petroleum and Natural Gas topics and simplified versions of field excursion pamphlets for distribution to students at the secondary school level.

Note: It is the intention of the Chairman to contact the various Earth Science or Geological Societies to ask for their assistance in providing the required earth science and field excursion information to the Coordinator if this recommendation is approved.

2. The Ministers of Mines ask the Minister of Energy, Mines and Resources of the federal government to

financially support and have prepared a book on the Earth Science of Canada that can be used as a teacher-student reference manual in the field of earth science and related matters such as geography and economic geology. This book to be prepared for use at the secondary or high school level.

#### B. Review of Activities of General Committee on Education, Canadian Institute of Mining and Metallurgy.

Mr. Gordon Tapp, Executive Director C.I.M. brought Committee No. 6 up to date on the activities of this committee and gave a progress report on the updating of "Career for You" in the Canadian Mineral Industry.

#### C. Review of Supply and Demand of Professional Manpower for the Mineral Industry.

Mr. Tapp also spoke on this subject stating that the supply trend was upward for all professions, disputing a 1967 projection predicting a shortage of professional personnel in 1975. At present the Geology graduates appear to be in oversupply whereas there appears to be a shortage of Electrical Engineers, personnel trained in Environmental Management and coal industry Technicians.

- D. A film entitled "Careers in Mining" was presented by Mr. Frank Holubowich of Alberta. This film was obtained from the British Columbia Mining Association.

- E. Mr. R. B. Livingstone, President of the Coal Association of Canada presented the following resolution which was approved by the committee and is hereby presented for consideration.

WHEREAS the rapid expansion of the Western Canadian coal industry to meet new markets has created a shortage of skilled coal mine workers and;

WHEREAS it has been necessary and will continue to be necessary to recruit and train coal mine personnel to fulfill the employment needs of the industry and;

WHEREAS activities in the area of training of coal mining personnel and the skills required are conducted on a provincial basis;

THEREFORE it is respectfully requested that the Ministers of Mines work together to achieve closer liaison and integration between the provincial departments of vocational training and the Federal Department of Manpower and Immigration and their very effective retraining programs for an interprovincial approach to the development of skilled coal miners to meet the needs of the expanding industry.

- F. The committee recommends that this committee continue as a standing committee of this conference.

## RESPONSE BY THE MINISTERS OF MINES

**Toronto, November 29, 1972**

- Item A. 1. It was decided that the Ministers would obtain comments from their own Ministers of Education to be available when the Mines Ministers meet with the Federal Ministers.
- Item B. No comment.
- Item C. No comment.
- Item E. The Ministers agreed to continue their efforts to achieve closer liaison and integration between the provincial departments of vocational training and the Federal Department of Manpower and Immigration and their effective training programs for an interprovincial approach to the development of skilled miners and technicians to meet the needs of the expanding mineral industry.
- Item F. Continuation of the Committee as a standing Committee was approved by the Ministers.

## CLOSING PLENARY SESSION—MINES MINISTERS CONFERENCE

The closing Plenary Session was held Wednesday, September 13 under the Chairmanship of the Honourable Bill Dickie.

Mr. Dickie said that it was planned that the agenda for next year's Conference would be distributed early enough so that delegates would be aware of the agenda items prior to attending the Conference. (The agenda for future Conferences appears on page 45 of the Proceedings.)

He announced that Ministers and Deputies would meet in Toronto in November to discuss proposals from each Committee. Each Committee Chairman was then asked to give a summary of his Committee's report.

The Chairman called the Honourable Sidney Green who thanked the Committee Chairmen and those participating in the meetings. He also thanked Hudson's Bay Oil and Gas Company Limited for sponsoring the Sunday evening Coffee Party and expressed his appreciation for the Monday and Tuesday evening receptions sponsored by the Canadian Petroleum Association and the Inde-

pendent Petroleum Association of Canada, respectively.

Honourable Glen M. Bagnell thanked the Government of the Province of Alberta and their officials for the hospitality that was extended. He also thanked The Coal Association of Canada, the Canadian Association of Oilwell Drilling Contractors and Mobil Oil Canada Ltd., and Gulf Oil Canada Limited for their sponsorship of events during the Conference.

Honourable A. Edison Stairs thanked the Alberta Government and expressed appreciation of the staff of the Chateau Lacombe. Mr. Jack Wotherspoon also thanked the host Province as well as Mr. Somerville and his staff for the manner in which events were planned and run during the Conference.

Dr. James T. Fyles then extended an invitation to hold the 1973 Conference at the Empress Hotel in Victoria in late September or early October.

Mr. Dickie thanked Dr. Fyles and concluded the Twenty-Ninth Annual Conference.



## AGENDA FOR FUTURE CONFERENCES

Mr. Dickie announced that the Ministers had agreed upon an agenda for future Conferences which reads as follows:

### **1. November—Meeting—Ministers and Deputy Ministers**

- (a) Receiving reports of committees with comments by each province on various items.
- (b) Ministers reviewing reports and comments, thereafter reporting thereon by Ministers' communique.
- (c) Special Ministers' agenda—may include:
  - (1) Policy consultation procedure between provinces and federal government.
  - (2) Alberta's Field Price Hearing Report.
  - (3) Other interprovincial policy issues.
- (d) Confirm location of 1973 Mines Ministers Conference.

### **2. May—Meeting—Deputy Ministers**

- (a) Prepare agenda for September 1973 meeting.
- (b) Prepare Ministers' agenda for 1973 meeting.
- (c) Each Deputy Minister responsible for input from industry for agenda for 1973 meeting for his province.

### **3. September—Meeting**

- (a) Ministers' agenda to include:
  - (1) Meeting with Minister of Energy and Deputy Minister of federal government.
- (b) Ministers to receive presentations from individuals or associations—2 hours.

#### **Guide Lines:**

- (1) Request for hearing to be made to Deputy Minister of host province.
- (2) Hearing informal—no briefs—no set agenda.
- (3) Items should involve interprovincial issues only.
- (4) Applicants should list Provincial Ministers' attendance requested.
- (5) Applicants should involve top policy makers of companies or associations or groups.

## Chairman's News Release

### WORKING SESSION RESOLUTIONS AND RECOMMENDATIONS

#### Introductory:

At the November 29th working session of the Provincial Ministers of Mines, the following resolutions and recommendations were adopted unanimously:

1. It was agreed that the Ministers of Mines recommend to the Minister of Energy, Mines and Resources that the Canada Explosives Research Laboratory of the Mining Research Centre be expanded to establish acceptable fume classifications for all explosives and blasting agents for use underground.
2. The Ministers see no basis or reason for the Federal Government to claim or seek jurisdiction concerning the regulation of safety conditions in mines located within the Provinces—the Provinces wish to emphasize that the Standards of Safety to be enforced be a matter for provincial review in order that the present high provincial standards of safety enforcement be maintained without duplication of effort.
3. The Ministers of Mines agreed to establish a committee of Deputy Ministers to conduct preliminary discussions regarding standards for geochemical exploration studies which would be of benefit to all concerned.
4. The Ministers were concerned about the impact of Federal Government involvement in resource administration and trade policies. The Ministers urge the Federal Government to set up a procedure of consultation with the Provincial Governments prior to implementing any new action affecting resource development. The Ministers noted that they will be referring matters on tax proposals brought to their attention to their respective Finance Ministers.
5. The Ministers noted the need to develop the more effective means of reclaiming and revegetating mine waste and tailings disposal areas.
6. The Ministers agreed to continue their efforts on technical and vocational training, in close liaison with the Federal Department in an effort to encourage indigenous people to work in the mines.
7. The Ministers reviewed the Province of Alberta's Natural Gas Policy statement as announced in the Alberta Legislature, and the Report Alberta received from the Alberta Energy Resources Conservation Board on the field price of natural gas. The Ministers resolved to meet again early in October in Victoria.

### PROVINCIAL MINISTERS OF MINES

The Provinces were represented by:

Alberta	Hon. Bill Dickie Minister of Mines and Minerals
British Columbia	Hon. Leo Thomas Nimsick Minister of Mines and Petroleum Resources
Manitoba	Hon. Sidney Green Minister of Mines, Resources and Environmental Management
New Brunswick	Hon. Allan E. Stairs Minister of Natural Resources
Newfoundland	Mr. Frederick Gover Deputy Minister of Mines
Nova Scotia	Hon. Glen M. Bagnell Minister of Mines
Quebec	Mr. Jean-Guy Fredette Deputy Minister of Natural Resources
Saskatchewan	Hon. Kim Thorson Minister of Mineral Resources
Ontario	Hon. Leo Bernier Minister of Natural Resources

BRIEF  
PRESENTED TO  
THE RIGHT HONOURABLE PIERRE ELLIOTT TRUDEAU  
AND  
THE HONOURABLE DONALD S. MACDONALD  
WITH RESPECT TO CERTAIN RECOMMENDATIONS  
ARISING FROM  
THE TWENTY-NINTH ANNUAL CONFERENCE  
OF THE  
PROVINCIAL MINISTERS OF MINES  
AT EDMONTON, 1972



## BRIEF OF THE PROVINCIAL MINISTERS OF MINES

On behalf of the Ministers who are responsible for the administration of mineral resources in the Provinces, we wish to present to you this brief containing certain recommendations arising out of the Twenty-Ninth Annual Conference of the Provincial Ministers of Mines held at Edmonton, Alberta from September 10 to September 13, 1972.

We wish to express our appreciation to the Federal Minister of Energy, Mines and Resources, the Honourable Donald S. Macdonald, for personally attending and addressing the Conference.

The Twenty-Ninth Conference discussed numerous and varied problems relating to the minerals industry. As a result of these discussions the following recommendations and resolutions were adopted by the Provincial Ministers and are respectfully submitted for your consideration.

### MINING OPERATIONS

1. To gain general acceptance of the E-M device used in non-destructive testing of mine-hoist ropes, the Provincial Ministers of Mines agreed to recommend to the Federal Minister of Energy, Mines and Resources that the subject be proposed for research to the National Advisory Committee for Mining and Metallurgical Research.
2. To ensure the maintenance of safety for employees, it was agreed that the Provincial Ministers of Mines recommend to the Minister of Energy, Mines and Resources that the Canada Explosives Research Laboratory of the Mining Research Centre be expanded to establish acceptable fume classifications for all explosives and blasting agents for use underground.
3. At the Twenty-Seventh Conference held in 1970 the following resolution was passed and the Ministers at this Twenty-Ninth Conference have agreed to the resolution reading:

"Therefore, the elaboration of safety rules and regulations, the safety inspections and the accident prevention work remain under the jurisdiction of the department of mines or such other designated provincial department or agency exclusively in each Canadian Province."

### EXPLORATION AND DEVELOPMENT

1. The Ministers were concerned about the impact of Federal Government involvement in resource administration and trade policies. The Ministers urge the Federal Government to set up a procedure of consultation with the Provincial Governments prior to implementing any new action affecting resource development. The Ministers noted that they will be referring matters on tax proposals brought to their attention to their respective Finance Ministers.

### ROYALTIES, TAXATION AND TARIFFS

1. It was agreed that Statistics Canada continue to publish exploration expenditure data and that an effort be made to complete the preparation of related employment data at an early date. It was also agreed that, in view of Dr. Nowlan's impending retirement, his successor would continue as Chairman.

### EDUCATION AND MANPOWER

1. The Ministers agreed to continue to attempt to achieve close liaison with the Federal Department of Manpower and Immigration on technical and vocational training, in an effort to train Native people for work in the mines. All of which is respectfully submitted.

Bill Dickie, Chairman  
29th Annual Conference of  
Provincial Ministers of Mines.







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Government  
Publications

# Provincial Ministers of Mines



## THIRTIETH ANNUAL CONFERENCE PROCEEDINGS

EMPRESS HOTEL, VICTORIA, BRITISH COLUMBIA  
SEPTEMBER 30 TO OCTOBER 2, 1973









# PROCEEDINGS

Thirtieth Annual Conference

of the

Provincial Ministers of Mines

SEPTEMBER 30 – OCTOBER 2, 1973

EMPRESS HOTEL

VICTORIA, BRITISH COLUMBIA

*Chairman of the Conference*

HONOURABLE LEO T. NIMSICK

Minister of Mines and Petroleum Resources

PROVINCE OF BRITISH COLUMBIA

*Deputy Chairmen*

MR. J. E. McMYNN

Deputy Minister

DR. JAMES T. FYLES

Assistant Deputy Minister

*Coordinator*

MR. W. L. INGRAM

Deputy Chief

Petroleum and Natural Gas Branch

*Ladies' Committee*

MRS. LEO T. NIMSICK

MRS. J. E. McMYNN

MRS. JAMES T. FYLES





## TABLE OF CONTENTS

	Page
Dates and Places of the Annual Conferences of the Provincial Ministers of Mines .....	5
Provincial Ministers of Mines and Deputy Ministers at the time of the Thirtieth Annual Conference of the Ministers of Mines .....	6
Group Picture .....	7
Programme .....	9
Committees and Agenda .....	12
Ladies' Programme .....	15
List of Delegates and Observers Registered at the Mines Ministers' Conference .....	16
List of Ladies Present .....	22
Opening Plenary Session — Provincial Ministers of Mines Conference .....	25
<i>Theme: Mineral Policy Objectives for Canada</i>	
Address of Honourable Leo T. Nimsick .....	25
Address of Honourable Donald S. Macdonald .....	26
Address of Mr. C. R. Elliott, President, Mining Association of Canada .....	31
Address of Dr. J. P. Nowlan, President, Canadian Institute of Mining and Metallurgy .....	38
Committee Reports, Recommendations, and Response by the Ministers .....	43
No. 1 — Mining Operations .....	45
No. 2 — Exploration and Development .....	47
No. 3 — Royalties, Taxation, and Tariffs .....	53
No. 4 — Mining and the Environment .....	94
No. 5 — Petroleum and Natural Gas .....	97
No. 6 — Education .....	98
Closing Plenary Session — Mines Ministers' Conference .....	99
Canadian Ministerial Conference on Mineral Policy .....	101



# DATES AND PLACES OF THE ANNUAL CONFERENCES OF THE PROVINCIAL MINISTERS OF MINES

CONFERENCE		DATE	PLACE
First	1945	April 14 - 16	Quebec, P.Q.
Second	1945	November 22 - 23	Toronto, Ontario
Third	1946	September 23 - 27	Winnipeg, Manitoba
Fourth	1947	September 3 - 5	Keltic Lodge, Nova Scotia
Fifth	1948	September 2 - 4	Jasper, Alberta
Sixth	1949	September 7 - 10	Fredericton, New Brunswick
Seventh	1950	September 13 - 16	Victoria, British Columbia
Eighth	1951	September 4 - 8	Saskatoon, Saskatchewan
Ninth	1952	September 15 - 17	Quebec, P.Q.
Tenth	1953	September 16 - 18	Niagara Falls, Ontario
Eleventh	1954	September 20 - 22	Winnipeg, Manitoba
Twelfth	1955	September 12 - 24	Keltic Lodge, Nova Scotia
Thirteenth	1956	September 10 - 12	Lake Louise, Alberta
Fourteenth	1957	September 4 - 6	Vancouver, British Columbia
Fifteenth	1958	September 3 - 5	St. Andrews, New Brunswick
Sixteenth	1959	September 14 - 16	Regina, Saskatchewan
Seventeenth	1960	October 16 - 19	Quebec, P.Q.
Eighteenth	1961	September 17 - 20	Toronto, Ontario
Nineteenth	1962	September 16 - 18	Winnipeg, Manitoba
Twentieth	1963	September 15 - 18	Halifax, Nova Scotia
Twenty-first	1964	September 6 - 9	Banff, Alberta
Twenty-second	1965	September 12 - 15	Victoria, British Columbia
Twenty-third	1966	September 18 - 21	Saint John, New Brunswick
Twenty-fourth	1967	September 17 - 20	Regina, Saskatchewan
Twenty-fifth	1968	September 15 - 18	Quebec, P.Q.
Twenty-sixth	1969	September 14 - 17	Toronto, Ontario
Twenty-seventh	1970	September 7 - 10	Winnipeg, Manitoba
Twenty-eighth	1971	September 12 - 15	Halifax, Nova Scotia
Twenty-ninth	1972	September 10 - 13	Edmonton, Alberta
Thirtieth	1973	September 30 - October 2	Victoria, British Columbia



# PROVINCIAL MINISTERS OF MINES AND DEPUTY MINISTERS AT THE TIME OF THE THIRTIETH ANNUAL CONFERENCE OF THE MINISTERS OF MINES

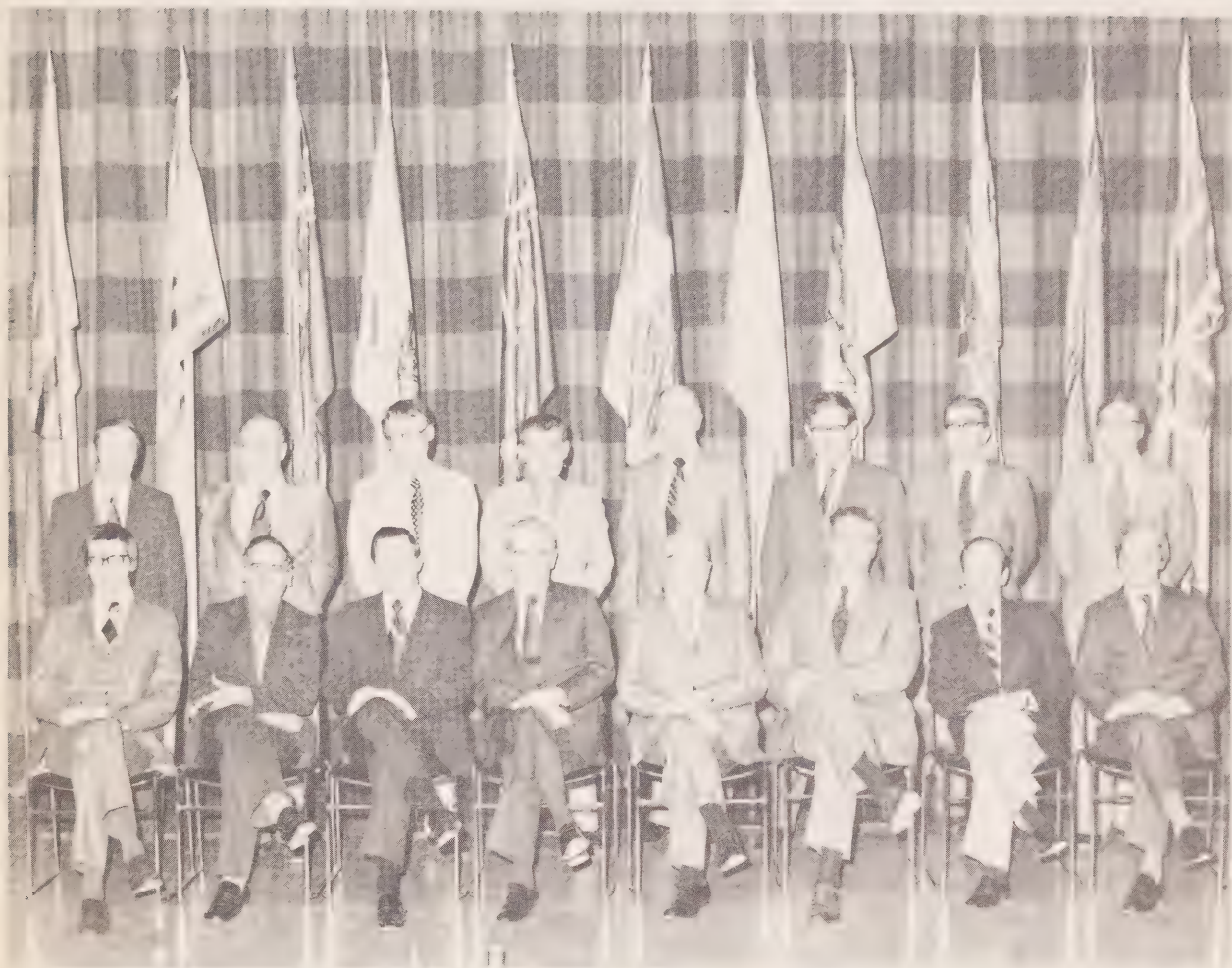
## MINISTERS

Honourable Leo. D. Barry	Minister of Mines, Agriculture and Resources	<i>Newfoundland</i>
Honourable Leonard L. Pace	Minister of Mines	<i>Nova Scotia</i>
Honourable John H. Maloney	Minister of Industry and Commerce	<i>Prince Edward Island</i>
Honourable A. Edison Stairs	Minister of Natural Resources	<i>New Brunswick</i>
Honourable J. Gilles Masse	Minister of Natural Resources	<i>Quebec</i>
Honourable Leo E. Bernier	Minister of Natural Resources	<i>Ontario</i>
Honourable Sidney Green	Minister of Mines, Resources and Environmental Management	<i>Manitoba</i>
Honourable Kim Thorson	Minister of Mineral Resources	<i>Saskatchewan</i>
Honourable Bill Dickie	Minister of Mines and Minerals	<i>Alberta</i>
Honourable Leo T. Nimsick	Minister of Mines and Petroleum Resources	<i>British Columbia</i>

## DEPUTY MINISTERS

Mr. J. H. McKillop	<i>Newfoundland</i>
Mr. J. C. Smith	<i>Nova Scotia</i>
Mr. D. E. Morrison	<i>Prince Edward Island</i>
Mr. R. L. Bishop	<i>New Brunswick</i>
Mr. J. G. Fredette	<i>Quebec</i>
Mr. W. Q. Macnee	<i>Ontario</i>
Mr. J. T. Cawley	<i>Manitoba</i>
Mr. J. G. Wotherspoon	<i>Saskatchewan</i>
Dr. G. B. Mellon	<i>Alberta</i>
Mr. J. E. McMynn	<i>British Columbia</i>

**PROVINCIAL MINISTERS OF MINES**  
**30th ANNUAL CONFERENCE — VICTORIA, 1974**



Back row (Deputy Ministers): J. H. McKillop, Newfoundland; J. T. Cawley, Manitoba; Dr. G. B. Mellon, Alberta; J. C. Smith, Nova Scotia; J. C. Wotherspoon, Saskatchewan; G. A. Jewett, Executive Director, Ontario; R. L. Bishop, New Brunswick; J. G. Fredette, Quebec.

Front row (Ministers): Honourable Leo D. Barry, Newfoundland; Honourable Sidney Green, Manitoba; Honourable Wm. D. Dickie, Alberta; Honourable L. L. Pace, Nova Scotia; Honourable Leo T. Nimsick, British Columbia; Honourable Leo Bernier, Ontario; Honourable A. Edison Stairs, New Brunswick; Honourable Jean-Gilles Masse, Quebec.





# PROGRAMME

**SUNDAY, SEPTEMBER 30th**

10:00 a.m. - 9:00 p.m.

## **REGISTRATION**

## **ADVANCE COMMITTEE MEETINGS**

2:00 p.m.

### **COMMITTEE NO. 1**

Meeting of Chief Mining Inspectors ..... Princess Charlotte Room

### **COMMITTEE NO. 3**

Subcommittee on Mineral Statistics ..... Prince Albert Room

### **COMMITTEE NO. 5**

Technical Subcommittee ..... Princess Louise Room

2:00 p.m. and 3:00 p.m.

## **BUS TOURS TO BUTCHART GARDENS**

*(Compliments of the Canadian Petroleum Association)*

8:00 p.m. - 10:00 p.m.

**COFFEE PARTY** — Ladies and Gentlemen ..... Georgian Lounge

## MONDAY, OCTOBER 1st

9:00 a.m. - 5:00 p.m.

**REGISTRATION** ..... Lower Lobby

9:00 a.m.

**OPENING PLENARY SESSION** ..... Georgian Lounge

*Chairman:*

**Honourable Leo T. Nimsick,**  
Minister of Mines and Petroleum Resources,  
Province of British Columbia.

*Theme:*

**Mineral Policy Objectives for Canada.**

*Speakers:*

**Honourable Donald S. Macdonald,**  
Minister, Department of Energy, Mines and Resources.

**Mr. C. R. Elliott,**  
President, Mining Association of Canada.

**Dr. J. P. Nowlan,**  
President, Canadian Institute of Mining and Metallurgy.

2:00 p.m.

### COMMITTEE MEETINGS

No. 1: Problems relating to Mining Operations ..... Princess Charlotte Room  
Co-chairmen: Mr. J. H. McKillop and Mr. J. E. McMynn

No. 2: Problems relating to Exploration and Development .. Duke of Kent Room  
Co-chairmen: Mr. J. G. Fredette and Mr. J. E. Gilbert

No. 3: Royalties, Taxation, and Tariffs ..... Georgian Lounge, north  
Co-chairmen: Mr. G. A. Jewett and Mr. C. A. Perry

No. 4: Mining and the Environment ..... Prince Albert Room  
Co-chairmen: Mr. R. L. Bishop and Mr. J. C. Smith

No. 5: Petroleum and Natural Gas ..... Princess Louise Room  
Co-chairmen: Dr. G. B. Mellon and Mr. J. T. Cawley

No. 6: Education ..... Georgian Lounge, south  
Chairman: Mr. J. G. Wotherspoon

8:00 p.m.

### MEETING OF MINISTERS AND DEPUTY MINISTERS

..... Princess Charlotte Room

**TUESDAY, OCTOBER 2nd**

9:00 a.m.

**COMMITTEES TO RECONVENE AT THE CALL OF CHAIRMEN**

9:00 a.m.

**MINISTERS' MEETINGS FOR INDUSTRY PRESENTATIONS**

(per schedule) ..... Board Room

4:00 p.m.

**CLOSING PLENARY SESSION** ..... Georgian Lounge

*Chairman:*

**Honourable Leo T. Nimsick,**  
Minister of Mines and Petroleum Resources,  
Province of British Columbia.

6:00 p.m. - 7:00 p.m.

**RECEPTION** — Ladies and Gentlemen ..... Georgian Lounge

*(Compliments of the Mining Association of British Columbia)*

7:00 p.m. - 9:00 p.m.

**DINNER** ..... Crystal Ballroom

*(Compliments of the Government of the Province of British Columbia)*

*Chairman:* **Honourable Leo T. Nimsick**

9:00 p.m.

**ENTERTAINMENT and DANCING** ..... Crystal Ballroom



# COMMITTEES AND AGENDA

## COMMITTEE NO. 1

### PROBLEMS RELATING TO MINING OPERATIONS

Co-chairmen: Mr. J. H. McKillop and Mr. J. E. McMynn

1. Review of new legislation and regulations.
2. Report of Chief Mining Inspector's Subcommittee.
3. Safety devices on mobile mining equipment — Canadian Clearing House.
4. Canadian mining and aggregate equipment exhibition — progress report.
5. Role of Committee No. 1:
  - (a) Relationship of the Committee to the Chief Inspector's Subcommittee.
  - (b) Proposed changes to activity of the Committee.
6. Mineral policy objectives for Canada.

## COMMITTEE NO. 2

### PROBLEMS RELATING TO EXPLORATION AND DEVELOPMENT

Co-chairmen: Mr. J. G. Fredette and Mr. J. E. Gilbert

1. Resume of new legislation and regulations.
2. Discussion of the report of the ad hoc committee on uniformity on mining legislation which will be presented to the ministers.
3. New geophysical techniques — continuing report on high sensitivity surveys.
4. Report on Canadian Centre for Geoscience Data — utilization of computers.
5. Report on joint federal-provincial airborne surveys.
6. Tax change effect on exploration.
7. Geochemistry:
  - (a) Laboratory reference standards.
  - (b) Analytical methods — reliability, etc.
  - (c) Joint federal-provincial surveys.
  - (d) Role of geochemistry in exploration.
  - (e) Role of geochemistry in environmental studies.  
*(in cooperation with Committee No. 4)*
8. Discussion of the report of the task force on the compulsory and voluntary submission of exploration work data to government agencies, which will be presented to the ministers.
9. Effects of federal government investment in trade policies on mineral exploration.

10. Discussion of the need for a Canadian policy with regard to exploration for uranium.
11. Other business.

### **COMMITTEE NO. 3**

#### **ROYALTIES, TAXATION, AND TARIFFS**

**Co-chairmen: Mr. G. A. Jewett and Mr. C. A. Perry**

1. Review previous business of the Committee.
2. Province by province review of mining and related taxes.
3. Panel on taxation of mining companies in various foreign jurisdictions: United States, Australia, Mexico, Brazil.
4. Impact of sales tax on mining companies in Canada — province by province review.
5. Impact of property tax on mining companies in Canada — province by province review.
6. Other business.

### **COMMITTEE NO. 4**

#### **MINING AND THE ENVIRONMENT**

**Co-chairmen: Mr. R. L. Bishop and Mr. J. C. Smith**

1. Resume of new legislation and regulations.
2. Resume of status of land reclamation on mining properties.
3. Compilation of environmental regulations of federal and provincial government respecting mining operations.
4. Mineral policy objectives for Canada, a discussion on minimizing adverse effects of mineral development on the environment.
5. Reports on current research projects and policies.

### **COMMITTEE NO. 5**

#### **PETROLEUM AND NATURAL GAS**

**Co-chairmen: Dr. G. B. Mellon and Mr. J. T. Cawley**

1. Report of Agenda Committee ..... L. G. O'Connor.
2. Resume of new legislation and regulations  
..... representatives from all provinces and federal government.
3. Annual statistical review ..... K. W. Fuller.

4. Progress report on model surface rights legislation . . . . . E. M. Bredin
5. Natural Gas: The New Era  
—a presentation by . . . . . V. L. Horte,  
President, Canadian Arctic Gas Study Limited.
6. Disposal of waste products into underground formations . . . . . D. D. McLean.
7. Review of legislation and procedures re use of surface and ground water in oil and  
gas operations . . . . . D. L. Johnson.
8. Review of recent developments in offshore operations . . . . . T. W. Dexter.
9. Review of model unit agreement and model unit operating agreement  
. . . . . J. H. Currie and R. C. Muir.
10. Review of environment protection policies and legislation across Canada  
. . . . . V. E. Bohme.
11. Review of national and international oil spill contingency plans and proposed oil  
spill cooperative legal agreement  
. . . . . G.R.H. Fern, J. J. Currie, W.J.H. Stuart, J. G. Gainer, M. Ruel.
12. Compilation of emergency personnel and equipment for control of blowouts  
and rig fires . . . . . J. D. Porter.
13. Critical review of Committee No. 5.
14. Agenda for 1974 Conference.
15. Other business.

## COMMITTEE NO. 6

### EDUCATION

**Chairman: Mr. J. G. Wotherspoon**

1. Review of the recommendations made at the 1972 Mines Ministers' Conference.
2. Discussion of the Mineral Policy Objectives for Canada.
3. Critical review of the Committee.



## LADIES' PROGRAMME

### SUNDAY, SEPTEMBER 30th

2:00 p.m. and 3:00 p.m.

**BUS TOURS** to Butchart Gardens

*(Compliments of the Canadian Petroleum Association)*

8:00 p.m. - 10:00 p.m.

**COFFEE PARTY** ..... Georgian Lounge

### MONDAY, OCTOBER 1st

3:30 p.m.

**TEA** at Government House and tour of waterfront.

### TUESDAY, OCTOBER 2nd

6:00 p.m. - 7:00 p.m.

**RECEPTION** ..... Tea Room

*(Compliments of the Mining Association of British Columbia)*

7:00 p.m. - 9:00 p.m.

**DINNER** ..... Crystal Ballroom

*(Compliments of the Government of the Province of British Columbia)*

9:00 p.m.

**ENTERTAINMENT and DANCING** ..... Crystal Ballroom

# LIST OF DELEGATES AND OBSERVERS REGISTERED AT THE MINES MINISTERS CONFERENCE

## NEWFOUNDLAND

### Delegates

Barry, Honourable Leo  
McKillip, Mr. J. H.  
Carter, Mr. F. H.  
Coristine, Mr. J. P.  
Fleming, Mr. J. M.  
Ford, Mr. D.  
Grimley, Mr. P. H.  
Hillier, Mr. H.  
Hriskevich, Mr. M. E.  
Kipnis, Mr. N.  
Ross, Mr. C. B.  
Wank, Mr. F. J.

Minister of Mines, Agriculture and Resources  
Deputy Minister of Mines, Agriculture and Resources  
Pickands Mather & Co.  
Iron Ore Company of Canada  
Department of Mines, Agriculture and Resources  
Noranda Exploration Company, Limited  
British Newfoundland Exploration Co.  
Department of Finance  
Aquitaine Company of Canada Ltd.  
Department of Mines, Agriculture and Resources  
Labrador Mining & Exploration Company Ltd.  
Teck Corporation Ltd.

### Observers

Burns, Mr. J. D.  
Howse, Mr. C. K.  
Lougheed, Mr. D.  
McKee, Mr. W.  
Tiede, Mr. A.

Amoco Canada Petroleum Company Ltd.  
Iron Ore Company of Canada  
Imperial Oil Limited  
Canadian Industries Ltd.  
Flintkote Company of Canada

## NOVA SCOTIA

### Delegates

Pace, Honourable Leonard L.  
Smith, Mr. J. C.  
Berry, Mr. C. G.  
Dexter, Mr. T. W.  
McKenzie, Mr. W.  
Nielsen, Mr. A. R.  
Scott, Mr. F.  
Slater, Mr. R.  
Zorychta, Mr. H.

Minister of Mines  
Deputy Minister of Mines  
Shawnee-Pallister Petroleums  
Department of Mines  
Department of Mines  
Mobil Oil of Canada Ltd.  
Imperial Oil Enterprises Ltd.  
Department of Mines  
Department of Mines

### Observers

McIvor, Mr. D. K.  
Nowlan, Dr. J. P.  
Roots, Dr. E. F.  
Tapp, Mr. E. G.

Imperial Oil Limited  
Canadian Institute of Mining and Metallurgy  
Department of Energy, Mines and Resources  
Canadian Institute of Mining and Metallurgy

## PRINCE EDWARD ISLAND

### Delegates

Booth, Mr. H.

Alberta Natural Gas Company Ltd.

## NEW BRUNSWICK

### Delegates

Stairs, Honourable A. Edison

Bishop, Mr. R. L.

Beliveau, Mr. L. G.

Bell, Mr. A. V.

Brissenden, Mr. W. G.

Buzas, Mr. A.

Clements, Mr. C. S.

Coughlan, Mr. L. K.

Jarrett, Mr. A. E.

Mannard, Mr. G. W.

Moerman, Mr. J. W.

Potter, Mr. R. R.

Warren, Mr. R. W.

Minister of Natural Resources

Deputy Minister of Natural Resources

Sullivan Mining Group

Montreal Engineering Company

Brunswick Mining & Smelting Corporation

Anaconda Canada Limited

Department of Natural Resources

Department of Natural Resources

Department of Natural Resources

Department of Natural Resources

Brunswick Mining & Smelting Corporation

Department of Natural Resources

Department of Natural Resources

### Observers

Lee, Mr. C. S.

MacBain, Mr. I. D.

New Brunswick Oilfields Limited

Texasgulf, Inc.

## QUEBEC

### Delegates

Fredette, Mr. J. G.

Gilbert, Mr. J. E.

Grenier, Mr. P. E.

Langlois, Mr. L. G.

Laurin, Mr. A. F.

Marcoux, Mr. C.

Paradis, Mr. G.

Tanquay, Mr. L. G.

Taschereau, Mr. M. A.

Taschereau, Mr. M. E.

Tetu, Mr. J.

Deputy Minister of Natural Resources

Department of Natural Resources

Department of Natural Resources

Quebec Metal Mining Association Inc.

Department of Natural Resources

Mattagami Lake Mines Limited

Department of Natural Resources

Department of Natural Resources

Quebec Metal Mining Association Inc.

Gaspé Copper Mines Ltd.

Government of Quebec

### Observers

Brandum, Mr. W. A.

Carboneau, Mr. C.

Dallaire, Mr. A.J.G.

Quebec Metal Mining Association Inc.

SOQUEM

Department of Natural Resources



Filteau, Mr. P. A.  
 St. Onge, Mr. V.  
 Godbout, Mr. A.

Quebec Asbestos Mining Association  
 Quebec Cartier Mining Company  
 Department of Industry and Commerce

## ONTARIO

### Delegates

— Bernier, Honourable Leo  
 — Herridge, Mr. A. J.  
 — Jewett, Mr. G. A.  
 — Jones, Mr. F. R.  
 — Lochhead, Mr. D. R.  
 — McGinn, Mr. J. R.  
 — McLean, Mr. D. D.  
 — Mohide, Dr. T. P.  
 — Pye, Dr. D. G.  
 — Schmitt, Mr. D.E.G.  
 — Taylor, Mr. R. R.  
 — Wadge, Mr. N. H.

Minister of Natural Resources  
 Ministry of Natural Resources  
 Ministry of Natural Resources  
 Steep Rock Iron Mines  
 Falconbridge Nickel Mines Limited  
 Ministry of Natural Resources  
 Ministry of Natural Resources  
 Ministry of Natural Resources  
 Ministry of Natural Resources  
 Noranda Mines, Limited  
 The International Nickel Company of Canada Ltd.  
 Ontario Mining Association

### Observers

Ball, Mr. F.  
 Bonus, Mr. J. L.  
 Broderick, Mr. B.  
 Colborne, Mr. G.  
 Craig, Mr. D.  
 Elliott, Mr. C. R.  
 Marriage, Mr. J.  
 — Morris, Mr. W.  
 — O'Connor, Mr. L. G.  
 — Taylor, Mr. D.  
 — Trembley, Mr. W.  
 — Wouters, Mr. J.

Falconbridge Nickel Mines Limited  
 Mining Association of Canada  
 The International Nickel Company of Canada Ltd.  
 Royal Bank of Canada  
 The International Nickel Company of Canada Ltd.  
 Mining Association of Canada  
 Australian Consulate, Washington  
 Ministry of Natural Resources  
 Union Gas Company of Canada, Ltd.  
 The International Nickel Company of Canada Ltd.  
 Ministry of Natural Resources  
 Ministry of Natural Resources

## MANITOBA

### Delegates

Green, Honourable Sidney  
 Cawley, Mr. J. T.  
 Bloy, Mr. H.  
 Cain, Mr. P. A.  
 Haugh, Dr. I.  
 Hjordleifson, Mr. C. R.  
 Koffman, Mr. A. A.  
 Munn, Mr. D. E.

Minister of Mines, Resources and Environmental Management  
 Deputy Minister of Mines, Resources and Environmental Management  
 Mining Association of Manitoba  
 Sherritt Gordon Mines Limited  
 Department of Mines, Resources and Environmental Management  
 Department of Mines, Resources and Environmental Management  
 Manitoba Mineral Resources Ltd.  
 The International Nickel Company of Canada Ltd.

Perry, Mr. C. A.  
Roper, Mr. J. S.  
Sadler, Mr. J. R.

Department of Finance  
Department of Mines, Resources and Environmental Management  
Hudson's Bay Mining and Smelting Company

#### **Observers**

Parres, Mr. A. L.  
Williams, Mr. C. T.

Straus Exploration Inc.  
Tantalum Mining Corporation of Canada Ltd.

## **SASKATCHEWAN**

#### **Delegates**

Thorson, Honourable Kim  
Wotherspoon, Mr. J. G.  
Cameron, Mr. G. W.  
Cheesman, Dr. R. L.  
Francis, Mr. D. R.  
Laberge, Mr. A. L.  
Lee, Mr. H.  
Mode, Mr. D. H.  
Olsen, Mr. E. R.  
Paquette, Mr. J. A.  
Smith, Mr. D. G.  
Tamaki, Mr. T.  
Zubko, Mr. V. F.

Minister of Mineral Resources  
Deputy Minister of Mineral Resources  
Independent Petroleum Association of Canada  
Saskatchewan Mining Association  
Department of Mineral Resources  
Imperial Oil Limited  
Department of Mineral Resources  
Department of Mineral Resources  
Alwinsal Potash Co. of Canada  
Kalium Chemicals Limited  
Department of Mineral Resources  
Department of Mineral Resources  
Sun Oil Company

#### **Observers**

Ediger, Mr. N. M.  
Fern, Mr. G.R.H.  
Gainer, Mr. J. G.  
Michaud, Mr. C.  
Porter, Mr. J. D.  
Spicer, Mr. W. W.  
Wansbrough, Mr. B. C.

Gulf Minerals Canada Ltd.  
Imperial Oil Limited  
Gulf Oil Canada Limited  
Independent Petroleum Association of Canada  
Canadian Association of Oilwell Drilling Contractors  
Canadian Petroleum Association  
Canadian Potash Producers Association

## **ALBERTA**

#### **Delegates**

Dickie, Honourable Bill  
Mellon, Dr. G. B.  
Coates, Mr. G. D.  
Day, Mr. M. J.  
Dingle, Mr. W.  
Fuller, Mr. K. W.

Minister of Mines and Minerals  
Deputy Minister of Mines and Minerals  
Luscar Limited  
Department of Mines and Minerals  
Imperial Oil Limited  
Energy Resources Conservation Board

Green, Dr. R.  
Holubowich, Mr. F. J.  
Maciej, Mr. H.  
Pearce, Mr. H. G.  
Rudolph, Mr. J. C.

Research Council of Alberta  
Department of Mines and Minerals  
Canadian Petroleum Association  
Foster Economics Consultants Ltd.  
Bluemount Resources Ltd.

#### Observers

Ashacker, Mr. M.  
Bohme, Mr. V. E.  
Bredin, Mr. E. M.  
Currie, Mr. J. H.  
  
Humphreys, Mr. R. D.  
McDonald, Mr. A. G.  
Muir, Mr. R. C.  
Ruben, Mr. R. F.  
Spady, Miss Elma

Energy Resources Conservation Board  
Energy Resources Conservation Board  
Mobil Oil Canada Ltd.  
Tenneco Oil and Minerals, Ltd.  
  
Great Canadian Oil Sands Limited  
Federal and Intergovernmental Affairs  
Home Oil Company Limited  
Independent Petroleum Association of Canada  
Department of Mines and Minerals

### BRITISH COLUMBIA

#### Delegates

Nimsick, Honourable Leo T.  
McMynn, Mr. J. E.  
Axford, Mr. D. W.  
Dunkley, Mr. C. S.  
Fyles, Dr. James T.  
Hope-Ross, Mr. W.  
Lineham, J. D.  
Mason, Mr. M. H.  
Moss, Mr. R. E.  
Peck, Mr. J. W.  
Steeves, Mr. K. E.  
Tough, Mr. W. J.  
Wilson, Mr. W.

Minister of Mines and Petroleum Resources  
Deputy Minister of Mines and Petroleum Resources  
Mobil Oil Canada Ltd.  
Independent Petroleum Association of Canada  
Department of Mines and Petroleum Resources  
Placid Oil Company  
Department of Mines and Petroleum Resources  
Cominco Ltd.  
Department of Mines and Petroleum Resources  
Department of Mines and Petroleum Resources  
Bethlehem Copper Corporation Ltd.  
The Mining Association of British Columbia  
Department of Industrial Development, Trade, and Commerce

#### Observers

Bowles, Mr. E. J.  
Elliott, Mr. T.  
Horn, Mr. H.  
Little, Mr. J. D.  
McGillivray, Mr. G. B.  
Mitchell, Mr. C. H.  
Nicholson, Mr. L. J.  
Poyen, Mr. J. S.  
Scholz, Mr. E. A.

Department of Mines and Petroleum Resources  
British Columbia and Yukon Chamber of Mines  
Department of Mines and Petroleum Resources  
Placer Development Limited  
Canadian Petroleum Association  
The Mining Association of British Columbia  
Cominco Ltd.  
Canadian Petroleum Association  
British Columbia and Yukon Chamber of Mines



## GOVERNMENT OF CANADA

### Delegates

Macdonald, Honourable D. S.	Minister of Energy, Mines and Resources
Austin, Mr. J.	Deputy Minister of Energy, Mines and Resources
Crandall, Mr. S. A.	Department of Indian Affairs and Northern Development
Drolet, Mr. J. P.	Department of Energy, Mines and Resources
Elver, Dr. R. B.	Department of Energy, Mines and Resources
Hodgson, Mr. E. C.	Department of Energy, Mines and Resources
Hunt, Mr. A. D.	Department of Indian Affairs and Northern Development
Jenkins, Mr. J. R.	National Energy Board
Joyce, Mr. F. J.	Department of Indian Affairs and Northern Development
Kelland, Mr. J. D.	Department of Indian Affairs and Northern Development
McLaren, Dr. D. J.	Geological Survey of Canada
Smith, Dr. C. H.	Department of Energy, Mines and Resources

### Observers

Burke, Mr. B. F.	Department of Energy, Mines and Resources
Cote, Dr. P. R.	Department of Energy, Mines and Resources
Goddard, Mr. J. P.	Department of Energy, Mines and Resources
Lusick, Mr. M. D.	Statistics Canada
Ruel, Dr. M.J.M.	Environment Canada
Symons, Mr. A. J.	Statistics Canada
Trevor, Mr. B.	Department of Indian Affairs and Northern Development

## LIST OF LADIES PRESENT

### NEWFOUNDLAND

Burns, Mrs. J. D.  
Hillier, Mrs. H.  
Howse, Mrs. C. K.

Hriskevich, Mrs. M. E.  
Lougheed, Mrs. D.  
McKee, Mrs. W.

Ross, Mrs. C. B.  
Wank, Mrs. F. J.

### NOVA SCOTIA

Berry, Mrs. C. G.  
McIvor, Mrs. D. K.

Nielsen, Mrs. A. R.  
Nowlan, Mrs. J. P.

Tapp, Mrs. E. G.

### PRINCE EDWARD ISLAND

Booth, Mrs. H.

### NEW BRUNSWICK

Beliveau, Mrs. L. G.  
Brissenden, Mrs. W. G.

Buzas, Mrs. A.  
Clements, Mrs. C. S.

Lee, Mrs. C. S.  
Moerman, Mrs. J. W.

### QUEBEC

Fredette, Mrs. J. G.  
Brandum, Mrs. W. A.

Langlois, Mrs. L. G.  
Taschereau, Mrs. M. A.

Taschereau, Mrs. M. E.

### ONTARIO

Bonus, Mrs. J. L.  
Craig, Mrs. D.  
Elliott, Mrs. C. R.  
Jones, Mrs. F. R.

Lochhead, Mrs. D. R.  
McLean, Mrs. D. D.  
O'Connor, Mrs. L. G.  
Schmitt, Mrs. D.E.G.

Taylor, Mrs. R. R.  
Wadge, Mrs. N. H.  
Wouters, Mrs. J.

### MANITOBA

Green, Mrs. S.  
Cawley, Mrs. J. T.  
Bloy, Mrs. H.  
Cain, Mrs. P. A.

Hjerleifson, Mrs. C. R.  
Koffman, Mrs. A. A.  
Munn, Mrs. D. E.  
Parres, Mrs. A. L.

Perry, Mrs. C. A.  
Roper, Mrs. J. S.  
Sadler, Mrs. J. R.  
Williams, Mrs. C. T.

## SASKATCHEWAN

Thorson, Mrs. K.  
Wotherspoon, Mrs. J. G.  
Cameron, Mrs. G. W.  
Cheesman, Mrs. R. L.  
Gainer, Mrs. J. G.  
Laberge, Mrs. A. L.

Lee, Mrs. H.  
Michaud, Mrs. C.  
Mode, Mrs. D. H.  
Olsen, Mrs. E. R.  
Porter, Mrs. J. D.

Smith, Mrs. D. G.  
Spicer, Mrs. W. W.  
Tamaki, Mrs. T.  
Wansbrough, Mrs. V. C.  
Zubko, Mrs. V. F.

## ALBERTA

Dickie, Mrs. B.  
Ashacker, Mrs. M.  
Bohme, Mrs. V. E.  
Currie, Mrs. J. H.

Dingle, Mrs. W.  
Fuller, Mrs. K. W.  
Holubowich, Mrs. F. J.  
Muir, Mrs. R. C.

Pearce, Mrs. H. G.  
Ruben, Mrs. R. F.  
Rudolph, Mrs. J. C.

## BRITISH COLUMBIA

Nimsick, Mrs. L. T.  
McMynn, Mrs. J. E.  
Axford, Mrs. D. W.  
Bowles, Mrs. E. J.  
Dunkley, Mrs. C. S.  
Fyles, Mrs. J. T.

Hope-Ross, Mrs. W.  
Lineham, Mrs. J. D.  
Little, Mrs. J. D.  
Mason, Mrs. M. H.  
McGillivray, Mrs. G. B.  
Mitchell, Mrs. C. H.

Moss, Mrs. R. E.  
Nicholson, Mrs. L. J.  
Peck, Mrs. J. W.  
Poyen, Mrs. J. S.  
Scholz, Mrs. E. A.  
Steeves, Mrs. K. E.

## GOVERNMENT OF CANADA

Crandall, Mrs. S. A.  
Goddard, Mrs. J. P.

Hodgson, Mrs. E. C.  
Lusick, Mrs. M. D.

Trevor, Mrs. B.





**30TH ANNUAL CONFERENCE OF PROVINCIAL MINISTERS OF MINES  
OPENING PLENARY SESSION**

**THEME: MINERAL POLICY OBJECTIVES FOR CANADA**

**Chairman of the Conference  
THE HONOURABLE LEO T. NIMSICK  
Minister of Mines and Petroleum Resources  
Province of British Columbia**

The Chairman in welcoming the Honourable Donald S. Macdonald, Federal Minister of Energy, Mines and Resources, and all the delegates of the Conference, spoke as follows:

On behalf of the Government of the Province of British Columbia, I take great pleasure in welcoming you to this beautiful province and the 30th Annual Conference of the Provincial Ministers of Mines. This year we decided to make this a smaller delegation than previously. While this may be true, I hope it will not deter any of you from the real purpose for which you are here — that is, to give consideration to the most important problems of a unified outlook to the depletion of our non-replenishable natural resources and to obtain the optimum benefit for Canada from the present and future use of minerals.

It is nearly 200 years since our forefathers took this country from the native Indians and set about exploiting the wealth of resources they found here. They did this with a very voracious appetite, because they were mesmerized by the abundance they found. They never thought the day would ever come when the realization would dawn on them that there was a limit to these resources.

At first it was a case of moving across the country from one abundance to another and then when the provinces were established, it developed into a competitive race to see who could deplete their resources the quickest. Each province, and Mines Minister, took great pride in how fast the mining and petroleum industry was growing in their respective provinces, with never a thought as to why we were so anxious to deplete these resources or as to whether the need for it was wisely and intelligently considered. They were only concerned with the market place and the profit to be found there.

Nevertheless, there now comes the dawning of a new day and in the last few years the realization that our resources are limited has dawned on those elected people entrusted with the stewardship of these resources on behalf of the people, and I can safely say that this is now generally true, whether those people make up a Conservative, a Liberal, or NDP Government. Undoubtedly some are reluctant to accept such a premise, but they cannot refute the reality of the situation. We cannot say that the private sector hold the same view because they are caught in the struggle for individual survival which is based on making a profit, and in their mad scramble to do this, they have little time to worry about where they dispose of the goods as long as they get the best price. The needs of the people at home, or how the resource is used abroad, is of secondary consideration.

The energy crisis which the United States and Canada are facing today was the catalyst that really brought the question to the fore, and failure to cope with the question could result in our whole way of life, as we know it, tumbling down around us.

Today it is gas and oil, but tomorrow it could be any other of our non-replenishable resources. Most of our material pleasures have grown up around those resources, and while I realize that conservation to many may mean leaving the resource in the ground, real conservation in regard to these non-replenishable resources is the wise and intelligent use of the resource on behalf of the people.

It is my hope and that of my government, that each one of us will aim for this objective with the result that collectively we will end up nearer to a unified resolution that these resources will be exploited for the common good. If we go forward with that in mind, we can make this 30th Conference really meaningful.

I now have great pleasure in introducing to you the Honourable Donald Macdonald.

The Honourable D. S. Macdonald addressed the meeting as follows:

**Mr. Chairman, Ladies and Gentlemen,**

At the outset I wish to thank you for your invitation to address this, the 30th anniversary session of the Conference of Provincial Ministers of Mines. In the matrimonial tradition, a 30th anniversary is marked by partners exchanging gifts of pearls. In this context I am not sure that my remarks this morning will be viewed by those present as pearls of wisdom. I do sincerely hope, however, that the provinces and the Federal Government will continue, despite our moments of disagreement, as partners in a relationship that will eventually result in the implementation of policies beneficial to all Canadians.

This is the second occasion on which I have been extended the privilege of addressing this Conference. And this is possibly one of the most important meetings of this forum for it is my understanding that both the role of participants and the very nature of the Provincial Mines Ministers' Conference as a component of the policy consultative process are about to be critically assessed. This evaluation is extremely timely, moreover, for Canada is heading into a period of significant expansion in the mineral sector.

Over the last year, my officials concerned with minerals, exclusive of energy commodities, have taken a close look at the mineral sector from several different perspectives. Their aim was to gain broad insights into:

The magnitude of future sector development to 2000;

The impact of this development on the Canadian economy; and

The economic and social suitability of the various policy choices open to us in the next few decades.

Here are some of their main conclusions:

Mineral activities in Canada provide the basis, directly and indirectly, for about 8 per cent of all employment and 14 per cent of total Canadian Gross National Product. Minerals account directly for 8 per cent of all investment, and for some 25 per cent of all Canadian export earnings. Economic activities related to mineral exploration, development, processing, manufacturing, transportation, and marketing permeate virtually all other sectors and regions of the economy.

Of particular interest here is that mineral industry output is an important proportion of total output in each main region of Canada. For example: Atlantic Provinces 23 per cent, Quebec 15 per cent, Ontario 15 per cent, Prairies 13 per cent, and British Columbia 17 per cent.

World demand for minerals will increase substantially in the years ahead. Based on these demands, and taking into account Canada's position as a major world producer, Canadian mineral output is expected to triple by the year 2000. The value of sector output will top \$12 billion, exclusive of oil and gas. And, inherent in this growth are opportunities for increased industrial diversification; increased corporate, personal and government incomes; and increased employment. This represents a major new block of economic activity. Furthermore, the magnitude of sector growth I have just forecast provides those responsible for managing Canada's mineral heritage a unique opportunity to influence the extent, character, and timing of Canadian economic development in the years ahead.

Canada's mineral endowment is large, diversified, and widely distributed. Available information assures us that our known reserves and future discoveries will support the anticipated growth, at least to the close of this century, provided that exploration and technological advance keep pace. I would caution that, with respect to resource adequacy, there will be an increased need to monitor our mineral supply position relative to exports and long-term domestic needs.

Although our mineral endowment is not unlimited I feel we have the resources in the ground and can achieve the technological capability to sustain the growth I have portrayed to you this morning. The real challenge lies in our ability to obtain from this growth optimum benefits for the Canadian people — benefits that are in keeping with changing social aspirations and economic needs. A good deal of competition will exist for the range of benefits inherent in future sector growth. Both external and internal forces will temper Canada's ability to increase domestic benefits from our own mineral endowment. The emergence of large trading blocs, the changing procurement policies of resource-consuming nations, the growing importance and mobility of international corporations, the increased competition from other mineral-producing countries, and the growing possibility of significant mineral supplies from ocean sources are major factors we will have to contend with.

We should, at the same time, recognize that many of these constraining forces can be viewed, given appropriate policy initiatives, as providing new avenues for realizing domestic objectives. For example, I view our efforts to strengthen relations with other resource exporting as well as importing countries on mineral matters as crucial if Canadians are to reduce external constraints to improve domestic benefits from minerals.

As the title for my talk states, we are now progressing towards a comprehensive mineral policy for Canada. This does not mean that Canada does not have a policy with respect to minerals at the present time. Quite the contrary! There is at present a large and diversified set of federal and provincial laws, regulations, practices, programmes, and agreements that affect how minerals are used to support Canadian objectives. Mineral policy should, I think, be viewed as the aggregate of all policy elements that influence the mineral sector of our economy, and, in turn, the impact of the mineral sector on the economy and society in general.

Mineral policy is a dynamic concept. It must evolve to reflect how Canadians perceive the mineral endowment as supportive to their aspirations for a strong economy, for a clean environment, and an increasing degree of national autonomy. Thus, what I wish to imply by the title of my talk is that, as we now move toward a so-called policy, we are going through a continuing process order to ensure that actions taken by government and industry are, to the fullest extent possible, compatible with the needs and desires of Canadians.

I would now like to illustrate the process of mineral policy formulation, implementation, and evaluation. I view the process as having five basic components or phases, namely:

- PHASE I: The definition of policy *goals* and objectives.
- PHASE II: The definition of *priorities* amongst these objectives.
- PHASE III: The definition of appropriate *strategies* to achieve the priority objectives.
- PHASE IV: The *implementation* of these policy strategies and tactics.
- PHASE V: The *evaluation* of results and *policy changes* if necessary.

In addition, I would like to emphasize that during this process a number of key decisions and points of consensus must be strived for if a mineral policy is to be both timely and truly national in scope. Now — where do we stand in the process at this moment, where have we come from, and, most important of all, where are we going?

Over the past year discussions between the Federal Government, the provinces and industry have intensified, resulting in a set of mineral policy objectives. If attained, these objectives would bring Canadians the greatest benefits possible from the present and future use of minerals. As one would guess, several conflicting views and contentious issues were raised and dealt with during these discussions. Not all conflicts were reconciled. Nonetheless, a



major decision point was reached in Ottawa on April 13th when consensus amongst the provinces and the Federal Government was achieved on a set of policy objectives as a basis for further discussion. To add weight to this decision we agreed to publish the objectives in order to advise all interested parties, be they foreign or domestic, that these objectives would be central to our thinking as we proceeded to define new, and reshape existing policies on minerals. I do not intend to, and I am sure you would not wish me to portray the April 13th decision as a total break-through in policy relations between the Federal and Provincial Governments. Nevertheless, an important and fundamental point of decision was reached. We laid a stepping stone from which to proceed. In defining these objectives, we have successfully tackled the first phase of the policy-making process.

I am sure that we will view these objectives as largely thematic in nature. We could not, even if we wished to, achieve all our objectives simultaneously. And this leads us into the second phase of the mineral policy process. We must now decide how to rank our objectives in order of priority. In other words, to what end mineral development? What do Canadians most want from minerals? Mineral utilization for what specific purpose?

These questions, fundamental as they are, have not been adequately answered, and their resolution will, I can guarantee, prove extremely difficult. Yet, as those responsible for defining appropriate policy directions, we have no choice but to seek out specific answers if we are to logically evolve a truly Canadian mineral policy.

Why do we find ourselves at such a fundamental and early stage in the policy process? Is it because we have neglected to keep pace in the past? Have former policy-makers been derelict in implementing meaningful and significant policies? No, this is not the point at all. In fact, I think that we would all agree that past policies with respect to minerals have served this nation very well for minerals are and are likely to continue to be a major cornerstone in the Canadian economy.

The critical point is this. Canadians view minerals as part of their national patrimony. They recognize that minerals play a central part in sustaining their economic well-being. Because of this Canadians are aspiring to even greater and perhaps somewhat different benefits from their mineral heritage than in the past. Social and economic priorities have changed, are changing, and will continue to change. The challenge is to ensure that policies with respect to minerals are in tune with these changing aspirations.

There is no shortage of opinions on how this can be done. The current spectrum of public debate on how minerals should be used is a wide one. To illustrate: there is an influential school of thought that advocates that current policies, perhaps with very minor modifications, are adequate to meet Canadian needs. Others feel that much more assertive policies should be implemented to ensure that minerals contribute more towards further diversification of the economy through the promotion of more mineral-based secondary manufacturing. Some view minerals primarily as a direct source of government revenues that could be used to finance a broad range of social and economic programmes. These people say that we should increase financial rents possible by way of increased taxes, royalties, and export prices. Another influential school of thought advocates the conservation of our mineral resources, the fear being that we are producing too much too fast without paying due attention to the economic needs of future generations. I view the foregoing spectrum of current thought as alternative policy choices.

I have no intention of being evasive when I say that all of these alternative policy choices have merit and deserve very careful consideration. The very diverse nature of the mineral industry both in a commodity and regional distribution sense dictates that through time each option may have particular strengths. These might hinge on changing international commodity markets or specific regional development considerations, to give two examples. I am sure that you recognize, as I do, the need for a flexible policy approach.

But we must decide on precisely what priority Canadians place on the agreed-upon mineral policy objectives, and hence on the alternative policy choices which I outlined previously. How best can such a decision be made? How best can we resolve the conflicting viewpoints on what Canadians want from minerals?



The question of objectives (Phase I), and the relative emphasis or priority to be placed on them (Phase II), requires decision before beginning strategy review and formulation (Phase III). In the spirit of damned if I do and damned if I don't, I want to suggest an approach on priorities.

*Economic Diversification:* First, mineral policy should be shaped to emphasize, to the fullest extent possible, industrial development and diversification through minerals on both a national and regional basis. Thus, whenever we look at the mineral industry generally, or at specific commodities, or at particular regions, our first efforts will focus on ways to develop and utilize minerals as far down-stream in the metallurgical processing and fabrication stage as possible. Such emphasis must be concerned with long-term commercial viability as well as the overall contribution to long-term Canadian development.

*Financial Returns:* As an alternative, the second priority emphasis should be the maximization of direct financial returns from mineral exports.

Thus, where individual commodities or particular regions do not represent an attractive opportunity for viable down-stream economic diversification, or where there may be a time-lag before further processing opportunities can be realized, then the emphasis should focus on the best financial flows for Canada.

Where future mineral-based activities are not contributory to economic diversification or financial returns, mineral policy must contain criteria on, when, and under what conditions developments would be deferred.

As an integral consideration of both the first and second priorities, the rate and pattern of mineral utilization would be altered where it appears that certain commodities may not meet future Canadian material requirements, or where the stability of established Canadian communities is threatened by too rapid a rate of exploitation.

*Policy Balance:* Concurrently, mineral policy must reflect the greater diversity of economic opportunity among regions throughout Canada while favouring greater Canadian participation and minimizing adverse environmental impacts. While the overall balance and emphasis will change through time, mineral policy must maintain its general goal of obtaining the best benefits for Canadians from minerals.

This proposed approach to priorities can serve as a basis for discussion, but many questions remain. Is this the economic and social thrust that most Canadians would want? Are there other characteristics that should receive attention? What criteria are required for decision-making? How might we best achieve the impacts sought?

It would indeed be foolhardy to assume for a moment that complete compatibility of views will exist. I think the very best we can hope for is that policy decisions made by governments will have the best net effects for all Canadians irrespective of their particular interests. Thus, the critical need is somehow to ensure that all of these key parties have the opportunity to participate in the policy process for, in the final analysis, those responsible for defining and carrying out mineral policies must interpret how the Canadian people wish mineral development in Canada to proceed. If opportunity for participation in the process is lacking, then the interpretation becomes increasingly difficult and the chances increase that policy decisions will not adequately reflect the legitimate desires and needs of the Canadian people.

At the April 13th meeting in Ottawa we arrived at a consensus on objectives for Canadian mineral policy for further discussion. We also concluded on the importance of improved cooperation and I quote from our joint public statement:

... Ministers agreed to develop a strengthened and more formal mechanism for coordination and common policy development. Such a mechanism is essential for the formulation of mineral policies which are national in scope.

The need for improved consultation has long been recognized by both levels of government and by industry. We did not invent the wheel on April 13th but we did make a mutual and formal commitment. In making this commitment we all recognize that certain degrees of freedom with respect to past behaviour must be foregone. What remains to be identified are some really quite fundamental, important, and difficult considerations such as when must we consult,? on what specific matters,? and with whom? It is my hope that answers to these pressing considerations will evolve during subsequent discussions on mineral policy.

To improve cooperation in the policy process requires a commitment, one that is a two-way street. No doubt both levels of government, and indeed industry, can produce a long list of instances where prior consultation, of a meaningful sort, was foregone for purposes of expediency. To be realistic, pressing circumstances in the future will give rise to unilateral action by both levels of government. This provides the basis for conflict and mistrust. Our problem is made even more difficult by the very nature and dynamism of the policy process and the rapidly changing environment, both domestic and international, within which policy decisions are required.

As you are aware, there are many policies and programmes within the federal area of responsibility that affect, directly and indirectly, the mineral system in Canada and its international dimensions. In turn, policies of individual provinces not only pertain to the responsible province. They affect other provinces and Canada as a whole. This interdependency of policies among areas of responsibility lies at the very core of Canadian mineral policy. Thus, we must seek to ensure that our policies are mutually reinforcing yet able to reflect variations in priority among provinces and territories.

To go further, I want to say that the policy tools for which the Federal Government is responsible should be viewed by provinces, not as a constraint, but vehicles by which some provincial aspirations might be obtained. Should the Federal Government take a reciprocal viewpoint on provincial policies with respect to nationwide goals? For example, in the area of further mineral processing, the provinces have clear policy tools which are usually in their mineral acts. At the federal level, we are involved in tariff negotiations at GATT for easier access for more highly processed materials. The *Export and Import Permits Act* could also be viewed as a potential lever that you could influence. And there is the vehicle for regional mineral development agreements such as exist for Newfoundland, New Brunswick, and Quebec, and which are under current consideration as business arising out of the Western Economic Opportunities Conference (WEOC) last July.

Both the provinces and the Federal Government are striving for the same end results, namely to obtain optimum benefit from the present and future use of minerals. We mutually agreed to this policy goal last April. Even though we may not always agree on the most appropriate course of action, let us accept the challenge posed by conflict with candour and imagination.

In conclusion, I repeat that Canada is indeed fortunate among the nations of the world in possessing an extensive and diversified mineral endowment. The future prospects for Canada's mineral sector are excellent. Such an outlook, in a major sector of our economy, provides those responsible for the management of our mineral heritage an opportunity to direct, in a substantive fashion, future Canadian economic development.

The interdependency of policies at both the federal and provincial levels of government dictates that we must continually strive to improve our consultative and coordinating mechanisms throughout the policy process. I sincerely hope that discussions held at this Conference will be instrumental in achieving this objective.

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The chairman thanked Mr. Macdonald and said he was very pleased that he had emphasized the different roles of the Provincial and Federal Governments because he thought that success in resource policy would be made in Canada, with the provinces having a certain role to play and the Federal Government having a certain role to play. He felt sure that the points raised would be discussed time and again during the committee meetings and that out of these meetings would come some important results.

The Chairman then introduced Mr. C. R. Elliott, President of the Mining Association of Canada, President of Conwest Exploration Company, and Vice-President of Cassiar Asbestos Corporation.

Mr. Elliott spoke as follows:

I welcome this opportunity of commenting on the national mineral policy objectives which were endorsed in April this year by the Federal and Provincial Governments. As President of the Mining Association of Canada, whose members account for over 95 per cent of Canada's output of metals and major industrial minerals, I wish to state clearly that our industry welcomes these objectives. We regard them as generally acceptable guidelines within the framework of which detailed policies can be elaborated in the context of national and provincial requirements.

The Canadian mining industry understands the desirability of relating our mineral development to social goals and to strengthen the contribution that minerals already make to regional and national development. The industry recognizes that to ensure we have sufficient supplies for domestic requirements is in the best interest of both industry and state. That we must seek to obtain optimum return from mineral exports has underlain the policies of the industry. Long before pollution probe became a catch phrase, the industry recognized the impact of mining as well as all other human activity on the environment. Furthermore, the industry has been busy doing something about it. While perfection has not been achieved by any means and will not be perhaps in our lifetime, great progress has been made towards minimizing the effects upon the environment of mining and processing of minerals.

Minerals constitute one of the most basic and significant sectors of our whole Canadian economic structure. Such aspects of our social and economic goals as competition policies, foreign ownership, taxation relations with the United States, to name but a few, are all inextricably related to the manner in which we develop and manage our mineral resources. It is, therefore, timely as well as entirely logical that we should define our mineral policy objectives while also developing other important sectoral policies.

In the "foreword" of the booklet on *Mineral Policy Objectives for Canada*, it is mentioned that "Canadians are becoming increasingly aware of the vital role which minerals play in the Canadian economy and in the growth of our national wealth." I think there is no doubt that there exists in Canada an increasing awareness of the importance of minerals generally, and I believe that the national programmes of information which have been developed over recent years by this Association have played a significant role in promoting this awareness.

The critics of our industry have also been busy, often with access to free publicity in making the public aware. It is important that these often emotional and totally unsupported criticisms should not be allowed to distract us from dealing with the problems at hand in a sensible and practical manner based on the fullest information available.

As with my colleagues in the industry, I have noted with great interest the strategy elements suggested as being required to implement each of the 12 national mineral policy objectives. In one sense they represent logical responses to the question of how the individual or collective set of objectives are to be given effect. I assume, of course, that it is intended to develop the implementation of these strategy elements in concert with industry.

Prior to commenting on some of the more important aspects and implications of the national mineral policy objectives, I would hope, Mr. Chairman and Gentlemen, that you will bear with me for a moment and allow me to make a few philosophical remarks of a more general character.

If in the past our industry has been insufficiently attuned to the changing social, economic, and philosophical aspirations of Canadians as a whole, it has been more a sin of omission than commission, attributable I believe, to the fact that most of us in the industry have tended to stick closely to the business of mining believing our first concern was to provide an efficient and viable industry that would find and develop the nation's mineral resources for the ultimate benefit of all. Clearly, we must broaden our concerns and make this apparent to everyone. This task will in part be facilitated by our taking guidance from a number of the mineral policy objectives and their strategy elements.



I believe we must do much more to relate to Canadians the role that mining plays in the development of their country and the attainment of our social goals.

Indeed, this is a task on which I believe governments and industry can work together within the framework of the national mineral policy objectives since without broad public support, based on public knowledge of the keystone setting of mining in our economy, many of the adverse perceptions surrounding our industry will persist and rather than helping to create a country united in purpose and effort, we shall find ourselves divided and weakened and without that degree of national purpose and resolution necessary to achieve our objectives.

The question of public ownership of natural resources has been greatly emphasized in recent months. Indeed, it is probably the single greatest issue surrounding all other considerations regarding the use of our mineral resources.

Let me say at the outset, that I take issue with the current idea that the resources belong to "the people." One might ask to whom does this term refer? This is a nice catch phrase for politicians but has little merit in fact. The resources, except for those that have been permanently alienated from the Crown, belong to the Crown. Whether in the right of Canada or the right of a province is simply a distinction as to the authority that will deal with them. I submit that it is the responsibility of the government of the appropriate political entity, that is the province or the Government of Canada, to determine a fair proportion to that government of whatever profit may be derived from the exploitation of a given mineral deposit and preferably, I think, as a tax related to profits as is now the general rule. In this way, the citizens as a whole will benefit through their government, though the point must be made that maximizing *public revenues* from the exploitation of mineral resources is not necessarily the same as maximizing *public benefits*. The real benefit passing to the people as such is the economic aspect on all facets of the Canadian economy. The industry provides a large domestic market for its requirements in equipment and supplies, and it creates an important demand for the service industries. Thus, as well as providing substantial employment directly, it opens up a market for goods and services that generates even greater employment within Canada. It provides raw materials for Canadian manufacturers, and its exports contribute importantly to the foreign exchange to pay for Canadian purchases abroad. Everyone benefits from the operation of a profitable mine. A mineral deposit that cannot be exploited at a profit benefits no one.

I believe many of our public relations problems in the mining industry stem from a too simplistic endorsement of the public ownership philosophy, and I think this is particularly the case from the point of view of profitability. Let me put it this way — if you produce "widgets" in your factory, no one questions the profit you make on their sale, except your shareholders if the profit is too small. If, however, you produce a mineral commodity which is fashioned from elements leased from the Crown, then the profit you make on its sale is subject to considerable scrutiny. In the current outcry, the rights of the investors who finance the finding and development of the project are forgotten in a scramble to get all the benefits for "the people."

As a necessary prelude to examining this question, I think we should remind ourselves of the definition of a resource. Reference is so often made to our "natural resources" that the assumption has come about that they are there simply for the taking. According to the dictionary, a resource is a "means of supplying a want," a "stock that can be drawn upon," or "a reserve source of supply."

The presence in the ground of a mineral deposit does not automatically imply that it constitutes a "stock that can be drawn upon" and that the deposit is a valuable asset. It only becomes genuinely valuable when it satisfies a four point criteria:

1. it is discovered;
2. it is extracted;
3. it is processed; and
4. it is marketed.



Thus, prior to the efforts of prospectors, geologists, miners, engineers, metallurgists, and marketing men, there were very few, if any, really valuable mineral resources in Canada.

Until mineral deposits are discovered the province or territory owns only a mass of land, some of which may be known to have favourable geology and therefore, potentially valuable for the discovery of mineral resources. Even after discovery, a mineral deposit has no real value on a current basis until sufficient work has been done to determine that an orebody exists. Let us remind ourselves also of the definition of ore. It is "a mineral that can be mined and processed at a profit." Throughout Canada, there are, of course, many geologically favourable areas for the location of mineral deposits. But I think there is great confusion in the public mind as to the distinction between a mineral deposit and an orebody. A mineral deposit may become an orebody but is not necessarily an orebody when discovered. As you well know, after exploration of the discovery, the deposit's potential must be assessed and a decision reached as to whether or not the deposit can be mined at a profit under the circumstances then existing. If it can be mined at a profit, then the deposit becomes an orebody and if sufficiently profitable potential is indicated, it will be developed into a producing mine.

Many factors must be considered: the market for the product and probable market price, transportation facilities, metallurgy, and other technical problems are examples. The deposit may prove to be rich and consequently highly profitable. This is the carrot that keeps the exploration people in the field hoping to find such deposits. On the other hand, it may be low grade but of large tonnage and hence has a potential for a long life but with a more modest rate of profit. Some mines that are marginal or sub-marginal are brought to production and then it becomes a matter of salvaging what you can of your capital expenditures. An orebody today may cease to be an orebody tomorrow because the market for the product has disappeared, or the price has fallen too low, or the cost of operating it may have risen to the point where all profit is wiped out.

The generally favourable geology of much of Canada did, as we know, lead to the discovery of many interesting mineral deposits. But it was only after very arduous, lengthy, risky, and costly efforts that some of these deposits have become mines. It is these efforts that produced real "resources" from which "the people" now benefit.

The history of mining in Canada also shows that without the application of considerable research and new technology, little value would have been recovered from some deposits of very considerable magnitude. A good example of the process of transforming a worthless mineral deposit into a valuable resource is nickel. When first discovered, its use was limited and it was regarded as a nuisance in an orebody. As a result of intensive research leading to the nickel-copper separation process, and of constant and determined effort to find uses for the metal, it has become a real "resource" in the form of a useful, valuable, and marketable commodity.

And so, gentlemen, I suggest the word "resources" has to be used advisedly. It is not, nor has it been a question of individuals and corporations moving in to exploit valuable known resources. What they have done is to find and *develop* those resources thus putting a real, marketable value on them. It is this process which has brought significant tangible benefits, both directly and indirectly, to all the people of Canada; benefits that were not previously available to them.

I think the late American geographer, Erich W. Zimmerman, summed up the situation quite succinctly when he said: "Resources are not; they become." When mention is made of "economic rent" these facts have to be fully recognized.

I believe it is appropriate to stress that if Canada is to be one nation, its wealth must be shared as fairly as possible, and therefore the minerally rich provinces should not consider their resources in narrow terms of provincial ownership and benefit. This is a concept which I was glad to see very clearly implied in the national *Mineral Policy Objectives* approved by all governments.

Personally, I find it very difficult to subscribe to the philosophy that mineral resources "belong" to any one group of people such, for instance, as the citizens of a particular province. Does this mean that if I decide as an individual to take up residence say in Alberta or British Columbia, I become an "owner" of the resources of that province, and that if I later move to Nova Scotia or some other province, possibly one that is not minerally rich, I relinquish that ownership? This seems to be the logical corollary to such reasoning.

To argue along these lines is surely irrelevant and to a great extent meaningless, if we are genuinely interested in solving the problems of our own society. It would, in the ultimate, be more meaningful to argue that in the final analysis minerals should benefit the whole of human society and of course we should regard ourselves fortunate to be in the position of controlling a substantial share of the world's supplies, actual and potential. This circumstance surely places a responsibility upon us to use them wisely.

Let us not lose sight of the fact that we are already discussing many aspects of environmental control in a global sense (viz the 1972 UN Stockholm Conference). Indeed, would anyone seriously challenge the fact that one of the prime functions of the United Nations has been, and remains, that of facilitating a more rational and moral allocation of the world's human and material resources than would otherwise be the case.

When I hear claims of ownership of resources for the "people" of a particular province, I am inclined to interpret this in a political sense. What is really meant, I suspect, is that the political party which happens to be in power provincially is anxious to re-emphasize its trusteeship in order to exert tax pressure not all of which will benefit all its citizens.

There is another aspect to mineral resource development which I feel compelled to comment on from this particular platform, and that is the question of whether such development should be carried out in the traditional Canadian private enterprise way or by adopting a new and unproven approach of carrying it out through government agencies.

If this second approach is seriously considered by governments in our political spectrum, we must ask ourselves two questions.

The first is, why in a country such as Canada should this system be advocated and secondly, what evidence is there to indicate that it would better serve to obtain optimum benefit for Canada than our present system?

With regard to the first question, let me re-emphasize the point that largely as a result of a favourable political and economic climate over a period of many years, we have been able to develop in Canada, a mining expertise which is second to none, not just in terms of the mineral commodities produced but in human values as well.

Canadian geologists are world renowned; so are our miners, engineers, metallurgists and those engaged in the many other disciplines associated with mining activities.

We are not a "developing" country with little or no capability in these disciplines. On the contrary, we have a highly developed capability in all of them, and I say to you that this represents a tremendously valuable asset for Canada.

Surely then, the right course for governments must be to nurture this excellence, not dissipate it as might well be the case if governments were to take over. On these grounds alone, I think that it would be absolute folly to attempt such an approach because of the inherent risk in it of destroying one of our very great industries and an important bulwark of our whole economic structure. This is especially so when one reflects on the fact that there would be no assurance whatsoever that what would take its place could offer anything approaching the industry's performance.

Neither is there any compelling evidence to show that such a system is what Canadians as a whole want now or in the future.

Much of our population is made up of people who came here to enjoy greater freedom than was possible in their former homelands. They came because they believed this was a land where they could fully exercise their talents particularly those of entrepreneurship. They saw Canada as a land where they had genuine opportunities to reap the benefits of their own initiatives.

The philosophy of government take-over and control is completely alien to such aspirations. Today, its target may be mining, tomorrow it could be agriculture, or forestry, or real estate, or banking or insurance, or any manufacturing or service industry. The route of state ownership and regimentation can only lead to a deterioration of personal freedom. It is inescapable axiom that as the state makes more decisions affecting our lives, the less power the individual has to determine his destiny.

Having said this, I also want to make it quite clear that our industry recognizes fully that we are in a rapidly changing world, and what was quite acceptable as an approach to mineral resource management and development, say in the fifties, may not be entirely appropriate to the 70's and 80's.

More than two years ago, The Mining Association of Canada went on record calling for the establishment of well-defined, long-term (and I emphasize long-term) guidelines into which the framework of our future mining developments would fit.

As further evidence of the industry's positive approach, I would remind you also that, jointly with the Federal Department of Energy, Mines and Resources, this Association is sponsoring the establishment at Queen's University of a Centre for Resource Studies. In the next five years, this activity alone will require at least \$625,000 in support from our Association.

Why have we taken this route? Because, together with the Federal Government, we recognize that Canada has moved into an era of great national concern regarding the role to be played by our natural resources. We appreciate that many extremely complex problems are arising because of the interaction of the scientific, technological, economic, sociological, environmental, financial, legal, political, and international aspects of mineral resource development.

It is our belief that the Centre for Resource Studies at Queen's University will bring together the knowledge, expertise, experience, needs, and views of members of the mining industry, the Government of Canada, and the University, in an environment which will contribute to the solution of these complex problems of mineral resource development policy.

In establishing a set of mineral policy objectives for Canada, governments have taken a major step. It must, however, also be acknowledged that they are still only *general* guidelines, and this is probably why all governments have found it possible to agree to them.

The next step is to put meat on the bones. It will undoubtedly be a very arduous task to define them clearly in an endeavour to develop elements which will be best suited to harmonize the complexities of jurisdiction between Federal and Provincial Governments, while at the same time enabling the industry to pursue its important role.

I believe that this task will provide a test of true partnership between governments and industry, for, as I said before, real benefits to our nation can be maximized only if there is complete cooperation among the various participants.

There are a number of alternatives which present themselves in determining suitable measures which might translate the general objectives into concrete and coherent policies. These, I am sure, are currently being studied by governments and I trust that industry will be fully consulted well before decisions are reached.



It seems to me that in studying matters of mineral resource policy we are immediately confronted by two inescapable conditions:

- ( i) the distinct mineral resource regions into which Canada is divided and
- (ii) the fact that control of mineral resources is largely within provincial jurisdictions.

This implies that regional differences are inherent in the system and that the role of the Federal Government must be essentially one of coordination.

It may also mean that we ought to begin by studying mineral resource policy at the regional level with, of course, the involvement of industry, for it is industry's response which represents one of the key elements in the practice.

It is already abundantly clear that in matters of mineral management and development, the views, for instance of Ontario, Quebec, Alberta, and British Columbia, are not similar. They cannot possibly be, because in each of those provinces mineral development is of different significance and is carried out under a different set of conditions. This applies even more so in the Yukon, the Northwest Territories, and the high Arctic where conditions are vastly different from those encountered in southern areas.

However, I also perceive many common requirements acceptable to all regions. For instance, such things as encouragement for more exploration, new measures to facilitate access to markets, and innovations to encourage more stability in the highly skilled labour force upon which mineral development rely.

Increased opportunities for the further processing of minerals would surely be an objective to which all regions would readily subscribe, although one would hope that provincial desires in this matter will be tempered by realism of what is economically feasible for our international markets.

The mining industry clearly understands and appreciates the desire of the governments and people of Canada to see more of our resources processed to as great a degree as possible in Canada. However, mining men are realists. They are not likely to be easily diverted into impractical schemes to satisfy a wistful wish they are not convinced is capable of realization. I believe that whenever situations arise that make further processing and manufacturing of resource products — mineral or otherwise — attractive, Canadian entrepreneurs will take on the task and a natural expansion of the resource based industries will come about. Many factors will influence such decisions — access to markets whether domestic or export in which such industry is able to compete; adequate and stable labour possessed of the required skills and available at the site of operations; access to capital in a climate favourable for private investment; energy sources; all the many matters that must be researched and considered. We should not generalize too much about processing and fabricating resource products. There is no merit in the processing of nickel to be used in steel alloys beyond the condition required by the world's steel mills. On the other hand, we already mint nickel coins for foreign governments. Whether we smelt ores and concentrates in a Canadian smelter or ship to an offshore smelter becomes an economic decision. Governments can help create the conditions that will bring about greater Canadian added value by maintaining a stable political climate and reasonable levels of taxation, and urge opposite foreign governments to moderate or remove trade barriers.

All these objectives are, I believe, attainable if the necessary incentives and desire are present. Industry is certainly willing to cooperate with governments in determining how best to effect the measures which are required.

It seems to me that to debate and determine policies in regard to these objectives some appropriate structure should be established forthwith and I would suggest that it take the form of a series of working committees composed of senior representatives from Federal and Provincial Governments aided by industry representatives in a consultative capacity. These committees would be concerned among other things with Taxation and Royalties, Exploration, Environmental Control, Transportation and Marketing, Labour Relations, and Social Planning.



These are important and critical areas where decisions have to be made and where the maximum coordination is required.

It stands to reason that in matters of taxation and royalties, long-term stability is essential just as much as an equitable and realistic level of tax which will recognize the necessity to maintain international competitiveness.

It is also clear that exploration, which is the lifeblood of mineral development, should be encouraged much more than it now is. Legislation regarding the exploration, development, and mining of mineral deposits should be realistic and should be subject to the least possible change consistent with good management.

When a parcel of land is committed for exploration, the holder must know his rights and obligations and be assured that so long as he meets his obligations the tenure of his rights is secure. Some recent legislation that has not adhered to this principle is giving the industry great concern.

Environmental control is a major responsibility but its nature and extent differs depending on the areas in which mining operations are situated, and measures to develop that control should therefore take into account regional considerations.

Good transportation and marketing are the prerequisites to any mineral development, and governments can play a most useful role in them. In terms of transportation the emphasis would be, of course, on northern and other remote areas where access is in most cases a prime determinant to making a deposit economic.

As for marketing, the prime area where government assistance is required is in eliminating the non-tariff barriers which place restrictions on our international trade. Of course, if the Federal Government was successful in negotiating tariff reductions on processed mineral commodities with some of our trading partners, this would greatly encourage the goal of further processing domestically.

And perhaps most important of all, Labour Relations and Social Planning, which are fundamental areas requiring imaginative and appropriate policies.

It is all too evident to everyone that the whole field of labour relations in Canada is one which leaves much to be desired. In regard to the incidence of strikes we have one of the worst records of any member country within the Organization for Economic Cooperation and Development (OECD) and it is not difficult to appreciate what is the serious and negative effect of this poor performance on the ability of Canadian industry to remain competitive in domestic and world markets, quite apart from the many inconveniences and hardships created in Canada by this labour strife.

Government by its labour relations legislation should create and maintain a climate which fosters understanding and fair relations between employees and employers in the private sector, and the latter should, for its part, seek to settle its own problems in an atmosphere of freedom and with a minimum of government interference. It should never be forgotten that fundamental to all sound labour legislation must be the freedom of the individual and protection of the public interest.

In mining, the problems of labour relations are compounded by a high turnover of personnel which results in part from the fact that our labour force has to operate very frequently in remote areas. Traditionally, mining companies have had to bear a large share of the costs involved in providing a more diversified structure to a community than simply that of a working environment; to offer the type and range of amenities to which people in these communities are entitled.

But clearly more imaginative and effective responses must be found to the challenges of living in isolated areas and this is an important field where a greater degree of coordination between governments and industry would seem to be indicated. There appears to be a good case for individuals who elect to work in regions remote from the mainstream of Canadian life and who contribute so importantly to the health of our economy to receive consideration in the form of a reduction in personal income tax. Perhaps residents of Canada's remote areas should also be eligible for subsidized transportation to urban centres where they must often go for some specialized services or treatment. If we are to successfully develop these areas of Canada we must be more concerned with how to enrich the lives of the people who live in them.

In conclusion, gentlemen, let me reiterate industry's concern and vital interest in developing sound long-term mineral policy objectives in line with the changing patterns of our society and international market requirements.

Let me re-emphasize that our Canadian mining expertise is a most valuable national asset which should be carefully nurtured, not dissipated, so that its exceptional capabilities can be harmonized with governments, to maximize resources benefits for Canada.

It is only through full cooperation that these benefits to the nation will be obtained.

\* \* \*

The Chairman thanked Mr. Elliott for presenting the private sector's views on what should be done in regard to our mineral resources.

The Chairman then introduced Dr. J. P. Nowlan, President of the Canadian Institute of Mining and Metallurgy, who recently retired as Deputy Minister of Mines for Nova Scotia who spoke as follows:

Due credit in great measure must be given to dedicated scientists in government service for their work in mapping lands, research on methods of mineral beneficiation, and compilation of data and records of prime importance to mineral utilization. However, governments' role to a great extent could change to that of exercising a negative influence with regard to the resource industries. They can bring exploration, development, and exploitation to a grinding halt, stage by stage, through taxes, through marketing controls, or through reducing availability of manpower by making welfare more enticing than work. On the other hand a mineral industry is possible only if some man has the training, desire, and to some extent, luck, to look for and find a mineral deposit. The resource must be there, it must be found, developed, and financed. Markets must exist or be made. In all these phases government plays the secondary role of assuring mineral rights to the appropriate party and to providing ancillary services to the extent that it chooses.

The mineral industry is one of the four supporting pillars of a prosperous Canada. The foundation is an abundant supply of energy without which none of the basic or secondary industries can survive in a competitive world. The pillars of course are farming, fishing, forest products, and minerals. The last stands out because, with few exceptions, our mineral products have been competitive on the world market; skills and techniques have developed which have enabled us to export technology, capital, and personnel around the world (particularly within the exploration sections of the industry); and much of our secondary industry, services, and transportation facilities are geared to and based on a solid framework of mineral exploitation. No empire in history has flourished if access to minerals has not been available.

Although a national energy policy appears to me to be far more urgent than a national mineral policy, the experience in developing a mineral policy could be of great assistance in devising an energy policy. The procedure followed, under the leadership of the Federal Department of Energy, Mines and Resources did more than pay lip service to the concept of meaningful consultation with the provinces. The clauses pertaining to needs, objectives, priorities, etc., were hammered out during a series of sessions with all Provincial Mines Departments during a lengthy period of time and in neutral ground, i.e., away from Ottawa. The results, while relatively innocuous, do provide a framework within which governments of any political persuasion now in power in Canada can devise specific roles to fit specific situations.

From a philosophical point of view, I think the important consideration is that, for the first time in my experience with the Federal Government appropriate technical input from the provinces was requested, considered, and adopted when a consensus was reached. Unfortunately within the Department of Energy, Mines and Resources this spirit of teamwork is not apparent in all planning. Within many other departments of the Federal Government not even a gesture is made toward local and provincial priorities and needs. Canada is so diverse a country that no one detailed policy may be beneficial to all sections, but, unfortunately, we tend to get policies and plans for the entire country laid down by Ottawa in a manner to satisfy the area that yields the greatest political pressure — often this is Ontario or Quebec, maybe now it is becoming the west — rarely is it the Atlantic Provinces.

Happily the framework of the mineral policy as presented can be applicable to all regions and within it, to a great extent, local priorities can be satisfied.

There is no sense in repeating here what has ably been presented in tabular and booklet form. The statistics on the contribution of the mineral industry to Canada's standard of comfortable living are well-known to us although probably not to the general public; suffice it to point out that cities like Toronto and Vancouver would be shadows of their present entities without the contributions from mining and exploration, and that our north country would largely be a vacuum had large areas not been opened up by mineral exploration. The timber cutter comes, cuts, and runs. The mine operator stays until the camp is exhausted and by then there is usually either some secondary industry or a service structure that can be utilized even if only for tourism.

Why have we spent so much time, money, and talent in attempting to develop secondary industry of a type where we have no national advantage? Secondary industry, to thrive without artificial incentives, must be based on advantages of some type. Either there must be access to raw materials, location must be such as to permit ready distribution into world markets, special skills must be forthcoming or cheap power must be available. Industry based on mineral resources always is credited with at least raw materials and special skills, and may have all four advantages. From both east and west coast we have access to world markets but have taken only minimal advantage of this fact preferring to rely on easy access to one market in and from Central Canada.

One of our problems has been to define and measure our mineral base benefits adequately. I have been Chairman of a committee charged by the Mines Ministers' Conference with improving the quality and reliability of our mineral statistics and to determine the return to Canada, preferably in constant dollars, from investments made at each stage of production and processing. The problem has turned out to be more complex than any of us anticipated and I do not think that we yet know at what point optimum returns for our investment are received. This in turn makes the central theme "Obtain optimum benefit for Canada from present and future use of minerals" subject to a great many individual interpretations. Some, looking at the success of a few mines, consider it to be in finding and exploiting orebodies and argue that private enterprise makes a profit that should go to the people. Others, unconcerned with market factors, call for at least secondary processing of all minerals produced and probably ultimate manufacturing of all goods of which minerals are a component within the country. The true optimum as usual probably lies somewhere between two extremes and it would seem sensible that an interplay of market forces should dominate the final decision as to investment.

In respect to depletion, most minerals are in a different category than are the fossil fuels. When these latter are burnt we have not only destroyed their value, we have depleted the oxygen in the atmosphere and changed the heat balance in the closed circuit of this earth. Should it be possible to burn all the fossil fuels we would have reverted to an atmosphere similar to that of the Carboniferous era, more favourable to plants and cold-blooded animals than to mammals. At some point our atmosphere will become less favourable to mankind than that to which we have become accustomed. The use of fossil fuels then has never been truly evaluated — their true cost must take into account the research necessary to replace them as our dominant energy source, the cost of maintaining our oxygen supply, and the price of minimizing pollution. Most minerals, on the other hand, can be recycled at a price provided always that the energy is available. There is little danger of running out of minerals per se, although sources will become more costly to



find and processing will require better and better technology. Once again available supplies of energy may be the critical factor and we should not be overlooking any possible continuing sources of such energy even where present costs are of an order higher than the artificially low prices we have been paying.

There may be one group of minerals which form an exception to the general rule of future availability. I refer to industrial minerals of specific characteristics which may be exceedingly difficult to duplicate. High grade dolomite for metallurgical purposes is one example although here the increasing use of iron pellets with silica largely removed as blast furnace feed enables the industry to utilize dolomite with a silica content much higher than would otherwise be acceptable.

Environmental factors loom ever larger in either mining or processing. Unfortunately widespread early carelessness in the coal mining of Appalachia and in the open air smelting of nickel ore at Sudbury are still held by environmentalists as the norm in mining practice. In actual fact of course the area of ground affected by mining is only a minor fraction of that utilized in other non-natural ways and with the type of control now being used it is not impossible that in the majority of cases mined areas will be left in a better condition than before mining was undertaken. The adverse effects due to the presence of humanity can scarcely be eliminated but those humans working at and living near mining operations are no more prone to garbage production than are the advocates of wilderness as the ultimate objective.

Again these comments are not to advocate an undisciplined approach to mining. Human nature being what it is, we all like to take the easiest or most profitable way and sensible checks on this tendency would appear to be the business of the government. The same checks are needed for highways and airports which can and do ruin scarce agriculture land; for farmers who can and do get careless with insecticides, for forest operations where natural and planted growth must be kept in line with cutting, and where erosion dangers are ever present; and for all municipalities where sewage treatment is shockingly negligible.

Social needs especially in the far north, are emphasized. In some camps, and I think of Red Lake, the native population has adapted well to mining in large part due to careful training on the part of the Cochenour Willans Mine. Mining does not disrupt the nation's way of life as do other aspects of development, but mine closure in a one-mine camp can have a disastrous effect on a population that has learned to rely on that one employment. The need to plan for the end of the orebody from the inception of mining is one that is possibly not emphasized enough in the Policy Statement.

From the economic point of view, when a new townsite must be developed in order to mine, it actually pays to sponsor all possible amenities of civilized living from the start so that labour turnover is minimized.

The chief problem in implementing the very desirable objectives as outlined in the statement, as accepted by both levels of government lies in the lack of factual knowledge concerning the consequences of our actions or lack of action. There are two separate fields of ignorance. One is within our own industry and Mines Departments and one aspect of this has been referred to above in our difficulty of determining actual benefits at each stage of investment, relative to that investment, be it of money, energy, or manpower.

Similar areas of ignorance are evident throughout the discussion of each set of strategy elements. There are suggestions for action which must be, in the many cases, where we do not know the full effect of such actions, purely experimental. The other field is the ignorance of the general public as to the extent to which the comfortable living of the majority of our citizens is due to the mining industry and its satellite services.

To help optimize the selection of strategy elements that will be tried, I would suggest a permanent Board with Provincial, Federal, and Industrial representation to set priorities, possibly area by area. This Board should have the finances and authority to engage task forces to study in detail problems that lie in such fields as harmonizing natural resource development, optimum allocation of investment, and marketing strategies. Not less than semi-annual



reports would be issued and publicized. Taxation or other financial inducements could be suggested as appropriate to attract investment toward the desired end. Such governmental pressures must be used with great discretion and only after meaningful consultation with industry.

The lack of knowledge by the general public, in fact the lack of communication in many cases, is a problem that I have been emphasizing, to the various Canadian Institute of Mining and Metallurgy Branches. With some exceptions the industry has fallen down badly in its communications. I think we have started to wake up to this fact, but it is going to require a concerted effort through all our news media and within our school systems to alert the Canadian public to the full significance of the mineral industry. Governments can help greatly here by establishing liaison with the various departments of education and by ensuring that all Teacher Training includes some appreciation of geology, mineral deposits, and the engineering and technical skills that we must continue to provide so that Canada can continue to profit from its minerals and maintain an environment consistent with a high quality of living.

As to research, I think that the most vital long-range problems are in the energy field, and we allocate far less than an appropriate share of research dollars in this regard.

We need to know long range atmospheric effects caused by oxidizing 250 million years' accumulation of debris in a few short centuries. We need far better ways of handling radioactive waste. We need to know the effects on ocean plankton from the cirrus clouds caused by jet aircraft as well as the upper atmosphere effects of polar flight. While there are undoubtedly fossil fuel and other energy reserves at a price in Canada, sufficient for us for many years, we need to know how to exploit them — the large undersea area of the Sydney coalfield, the underground portion of the tar sands, and Fundy tides are good examples. Finally, if we find that we do not dare utilize all our fossil fuel reserves, we must find some way of harnessing more of the sun's energy, or of the internal energy of this globe, and a much more effective storage system. Better that our tax money go in these directions, paid by the energy users, than in a variety of welfare schemes which add nothing to the national product or to the quality of life.

Multinational corporations, strong enough to thrive in a competitive world, must be encouraged to remain based in Canada, or to move to Canada. Mineral policies must recognize this economic need. At the same time roadblocks should not be thrown in the way of hungry smaller companies, geared to take chances that are unattractive to large organizations. Both are needed; both, because of the discipline of the market place, are inherently more efficient than governmental organizations, and both supply risk funds from individuals who voluntarily take their chances for success or failure. Such burden of risk financing should not devolve on the taxpayer. Revenues can be and are acquired by the several levels of government from profits of the few successful ventures without risk unless the taxation press is applied too tightly. A sizeable portion of such revenues should be devoted to applied research in the fields of minerals and energy production either by tax remission to private enterprise or through the revenues raised. Such research should cover the fields of reserves, exploitation, future needs and energy, and mineral economics. Until better knowledge of the limiting or controlling factors in each instance is acquired, our policies should remain flexible.

Finally, I would suggest that under present tax policies it will be extremely difficult for a new major company to be developed in this country and that such development can easily be made impossible by changes in such policies, which are reportedly contemplated by some governments. By the very fact of their prominence most of the industry delegates to a meeting such as this tend to be from the larger companies so this aspect may not appear important to them. Whether or not an opportunity for new private enterprise to grow should be provided is an aspect of policy that should be considered very carefully by both Provincial and Federal Governments. Furthermore, it is an aspect which goes well beyond the direct powers of the various Departments of Mines and as such receives little consideration in the Policy Statement.



COMMITTEE REPORTS,  
RECOMMENDATIONS  
AND  
RESPONSE BY THE MINISTERS





## REPORT OF COMMITTEE NO. 1

### MINING OPERATIONS

CO-CHAIRMEN: Mr. J. H. McKillop  
Mr. J. E. McMynn

#### A. REVIEW OF NEW LEGISLATION AND REGULATIONS

A number of provinces have new legislation and regulations in the works. Nova Scotia amended the *Coal Mines Regulation Act* to provide the necessary authority for the Department of Mines to clean up a number of old minesites, the owners of many of which cannot be conveniently located, if at all.

#### B. REPORT OF THE CHIEF MINING INSPECTOR'S SUBCOMMITTEE

The Chief Mining Inspector's Subcommittee of Committee No. 1 distributed a copy of a report prepared after their meeting in Vancouver last April. The report dealt with such matters as:

- (a) underground noise levels.
- (b) fume characteristics of explosives.
- (c) safety aspects of diesel equipment.
- (d) circulation of information on dangerous occurrences.
- (e) oxygen and poison gas testing equipment.

A resolution which arose from the discussion of this item was that this Subcommittee be continued, and that it should meet twice a year in order to achieve optimum effectiveness.

#### C. SAFETY DEVICES ON MOBILE MINING EQUIPMENT – CANADIAN CLEARING HOUSE

and

#### D. CANADIAN MINING AND AGGREGATE EQUIPMENT EXHIBITION – PROGRESS REPORT

A united front is required by provinces on safety devices on mobile mining equipment. New traffic controls are required on large trucks.

Vic Dawson of British Columbia was considered the most appropriate to review and to represent Chief Inspectors at Exhibition Park in Toronto.

#### E. ROLE OF COMMITTEE NO. 1

##### (a) *Relationship of the Committee to the Chief Inspector's Subcommittee*

The Chief Inspector's Subcommittee is a subcommittee of Committee No. 1. A resolution was passed which recommends that all Chief Inspectors of Mines or their equivalent, as the highest responsible authority for mine safety in any province, be included in the Chief Inspector's Subcommittee. This resolution arises from the fact that two Canadian provinces have vested the responsibility for mines' inspection in other departments than mines.

(b) *Proposed Changes to Activity of the Committee*

It was the consensus that insufficient time and effort goes into the preparation of an agenda for this Committee. Two persons:

Mr. J. L. (Louis) Tanguay, Quebec  
Mr. R. W. (Bill) Warren, New Brunswick

were appointed to work up the agenda for the 1974 Mines Ministers' Conference.

*Technical Manpower Requirements:* Some provinces have expressed a concern about the difficulties they are encountering in finding and holding qualified personnel in the technical fields: tradesmen, welders, equipment operators, machinists, millwrights, etc.

Some felt that Canadian immigration policies and welfare policies should be examined in this regard. Tax or other incentives might help labour in mines.

It was recommended that Committees No. 1 and No. 4 (Environment) should be combined because of the closely related interests involved.

**F. MINERAL POLICY OBJECTIVES FOR CANADA**

Items of concern to delegates:

- (1) An inventory of our minerals for planning and policy formulation.
  - (a) Assessment of mineral needs for the foreseeable future.
  - (b) Market calculation for the exportable surplus.
- (2) The higher cost of moving processed minerals to markets. How should the cost be borne?
- (3) Japanese are interested in having more of their smelting done outside of Japan. Pollution is a factor, but another important factor is that because labour is getting more expensive, they would prefer to utilize it in higher profit activities.
- (4) Increasing costs of energy in Canada.
- (5) The high cost of money for new mining developments or expansion of existing facilities. Related to this is the optimization of extraction — higher costs — higher cut-off grades.

**RESPONSE BY THE MINISTERS OF MINES**

**Toronto, November 22, 1973**

- Item A. No comment.
- Item B. Agreed that the Chief Mining Inspector's Subcommittee should continue and meet twice each year.
- Item C. Recommended that the provincial Ministers of Mines approach the Federal Department to determine what is being done in regards to a more satisfactory method of testing rope.
- Item D. No comment.
- Item E. Agreed that all Chief Inspectors of Mines or their equivalent as the highest responsible authority for mine safety should be included on the Chief Mining Inspector's Subcommittee. Noted the concern expressed about the difficulties encountered in finding and holding qualified personnel in the technical fields.
- Item F. No comment.

## REPORT OF COMMITTEE NO. 2

### EXPLORATION AND DEVELOPMENT

CO-CHAIRMEN: Mr. J. G. Fredette  
Mr. J. E. Gilbert

#### A. RESUME OF NEW LEGISLATION AND REGULATIONS

##### NEWFOUNDLAND REPORTED:

Newfoundland has implemented an interim policy on mineral land tenure which is being considered for incorporation in new, longer term legislation. Concession agreements are no longer issued on the island of Newfoundland but are still available in Labrador. On the island, staking is the method employed for acquisition of mineral rights. Staking is also permitted in Labrador.

##### ONTARIO REPORTED:

The new mining act is now in the final stages of preparation and it will be passed within the next year.

##### BRITISH COLUMBIA REPORTED:

Extensive changes have already been made in the mining act and regulations and further changes are contemplated. Among the more important revisions of the requirement that only Canadian citizens can obtain prospectors' permits, although non-citizens previously holding such permits will be allowed to renew them.

#### B. REPORT OF THE AD HOC COMMITTEE ON MINING LEGISLATION

It was reported that this committee had not met since the last Mines Ministers' Conference. During the year a paper entitled, *Comparison of Regulations Pertaining to Acquisitions of Crown Mineral Rights in Canada*, was prepared by Mr. J. T. Cawley, the committee chairman, and tabled with the Mines Ministers' Conference.

In connection with the work of the ad hoc committee, the following resolution was passed:

Committee No. 2 recommends to the Ministers that the ad hoc committee on mining legislation actively continue its work and that the provincial departments of mines be asked to make the reports of the committee available to the mining associations within their jurisdictions.

#### C. NEW GEOPHYSICAL TECHNIQUES

Dr. D. J. McLaren, Director of the Geological Survey of Canada, reported on three types of geophysical surveys carried out by the Federal Government and tabled the following reports:

##### (a) *Experimental high sensitivity aeromagnetic programme*

The purpose of these studies is to investigate the possibility and usefulness of measuring much more detailed and much smaller variations in the earth magnetic field, especially in the Canadian Shield, than can be provided by standard magnetometers. The experimental works begun by the Geological Survey of Canada in 1968 include both the development of adequate instrumentation and of automated digital compilation techniques.

The development of the instrumentation has progressed more rapidly than that of the necessary computer programme and the high sensitivity magnetometer became operational as early as in 1970. However, automated data compilation has also recently reached the routine basis and assessment is under way.

As part of a continuing programme of technique development the Geological Survey of Canada aircraft is presently being modified to carry a gradiometer installation since there is good evidence that magnetic gradient measurements may provide the best information on near surface geology and would therefore find their most important applications in areas of extensive overburden. Test flights will take place in 1974.

(b) *Experimental airborne gamma-ray spectrometry*

The Geological Survey of Canada, in conjunction with A.E.C.L., developed between 1967 and 1969 an airborne gamma-ray spectrometer system, a geophysical tool capable of measuring ground concentration and distribution of the radio-element thorium, uranium, and potassium. The system now in operation includes a detector containing over 3,000 cubic inches of sodium iodide.

Since 1968, the equipment has been engaged in four types of work comprising: (i) experiments to establish physical and operational parameters of the system; (ii) detailed test surveys of areas of known economic uranium deposits, (iii) experimental surveys at wide line spacing for the purpose of aiding geologic mapping and evaluating economic potential; and (iv) crosscountry reconnaissance flights to determine large-scale regional variations in radio-element distribution within the Canadian Shield.

A good number of surveys, some on a cost-shared basis with the provinces, have been completed in various parts of Canada, totalling approximately 64,700 line miles. At the same time laboratory and field experiments are carried out so as to define data analysis techniques and produce more accurate airborne measurements of radio-element concentrations. Instrumental development and investigation of new detector materials are also being carried out and experimental surveys, including some jointly with the provinces, are being planned.

Although further refinement of the method is desirable, it is felt that it is sufficiently developed and established to recommend that serious consideration be given to sponsoring more extensive surveys on a commercial basis.

(c) *Airborne electromagnetic techniques*

The use of a multi-frequency system seems to become more popular and development work is proceeding along this line. The Geological Survey of Canada will be testing soon the Scintrex 3 — frequency Tridem System — and since the Provincial Governments are increasingly involved in sponsoring E.M. surveys, the question of a joint Federal-Provincial testing programme deserves consideration, according to the Geological Survey of Canada.

#### **D. REPORT OF CANADIAN CENTRE FOR GEOSCIENCE DATA**

Dr. C. F. Burke, Geological Survey of Canada, outlined the work done by the Centre during the year. Only four of the ten provinces of Canada are participating in the National Index to Geological Data, namely: Quebec, Ontario, Newfoundland, and Saskatchewan. Since six provinces are not contributing to the Index, it is incomplete from a national point of view.

In other areas, work commenced on building computer-based mineral deposits data files, and a report on this activity was prepared and made available to the public.

#### **E. REPORT ON JOINT FEDERAL-PROVINCIAL AIRBORNE SURVEYS**

Dr. D. J. McLaren, Director of the Geological Survey of Canada, tabled a report entitled, *Federal-Provincial Aeromagnetic Program*, in which a summary of this activity is presented.



All provinces, except Quebec, the continental part of Newfoundland (Labrador) and British Columbia are entirely covered and flying is presently in progress in Labrador, Quebec, and District of Keewatin. However, the coverage of the whole of Canada could not, at the present rate of expenditure (about \$1 million in federal funds) be completed until at least 1990.

An up-grading in survey specifications has taken place since the beginning of the programme and the data are now recorded in digital form.

#### **F. TAX CHANGE EFFECT ON EXPLORATION**

Members of the committee expressed views to the effect that all governments in Canada should be made fully aware of the high risks involved in mining exploration and ventures so that tax policies may reflect these risks.

#### **G. GEOCHEMISTRY**

Dr. D. J. McLaren, Director of the Geological Survey of Canada, tabled a report entitled, *Geochemistry*, that covered the five areas to which reference was made in the 1972 report of Committee No. 2.

Those are:

- (a) Role of geochemistry in exploration;
- (b) Role of geochemistry in environmental studies..
- (c) Joint Federal-Provincial surveys;
- (d) Laboratory reference standards;
- (e) Analytical methods.

It was stated the Geological Survey of Canada and some provinces are carrying out large geochemical exploration programmes and that the expenditure on this type of exploration by the industry during 1973 is estimated at \$8 to \$10 millions.

The Federal Government may be interested in joint Federal-Provincial cost-shared geochemical surveys of which it was recognized there is a real need at the broad reconnaissance level.

In the field of laboratory reference methods, it was noted that the Association of Exploration Geochemists, Denver, Colorado, has started to work on this important matter and it was recommended that all provinces and mining companies interested in geochemistry contact that organization for further details.

The following motion was carried:

"It is recommended that the Federal and Provincial Governments continue to conduct research into geochemical methods of exploration and to develop regional geochemical patterns for all Canada."

#### **H. REPORT OF TASK FORCE ON SUBMISSION OF EXPLORATION DATA**

The following report was presented by the Task Force to Committee No. 2:

1. To all exploratory work listed in (II) following, that is done on any disposed Crown mineral rights, whether or not such rights are allowed to lapse after the work is done.

2. To all airborne geophysical surveys done on undisposed ground or ground that is held by a third party.
3. The report does not apply to work done in search for fossil fuels but submission of such data should be considered by a new subcommittee.

## II. TYPES OF WORK TO BE SUBMITTED

1. Prospecting;
2. Trenching;
3. Underground and areal geological surveys;
4. Underground, airborne, and areal geophysical surveys;
5. Underground, airborne, and areal geochemical surveys.
6. Drilling;
7. Sampling (done either as a part of work listed above or as a separate programme);
8. Any other data that might be required by the Minister.

## III. INFORMATION REQUIRED

With respect to each of the types of work listed in (II) preceding:

- (a) The general types of information listed in the attached appendix will be required by each province.
- (b) Each province will be responsible for deciding independently the method by which the information is to be obtained, the detail required, the confidential period, and the format in which the information is to be submitted.

## IV. IMPLEMENTATION OF PROPOSALS

1. It is recommended that this report be sent immediately by the Chairman of Committee No. 2 to all mining and prospecting associations in Canada for comment by the end of 1973 and that the comments received be considered at a final meeting of the subcommittee to be held in March of 1974 in Toronto.
2. It is recommended that each province implement the proposals in this report by the end of the 1974 calendar year so that all exploratory work carried out in 1975 will be required to be submitted.

## APPENDIX TO REPORT OF TASK FORCE ON EXPLORATION DATA

### INFORMATION REQUIRED WITH RESPECT TO TYPES OF WORK TO BE SUBMITTED

#### 1. *PROSPECTING*

- (1) Map of appropriate scale showing in relation to topography and claim boundaries:
  - (a) Location of area prospected;
  - (b) Location of traverse;
  - (c) Outcrops examined and mineralization noted.
- (2) Report indicating name of prospector, dates on which work was done, and any unusual geological features noted.

## 2. TRENCHING

- (1) Map at appropriate scale indicating:
  - (a) Location of trenches;
  - (b) Dimensions of trenches;
  - (c) Plan of sampling indicating location of samples in trench.
- (2) Identified assay results of all samples.

## 3. GROUND AND UNDERGROUND SURVEYS (*Geological, Geochemical, Geophysical*)

- (1) With respect to all types of surveys, maps, and reports indicating:
  - (a) Location of survey, survey grid lines, and underground workings with respect to topography and claim boundaries.
  - (b) Geodesic and base stations, reference, control, and tie-in points;
  - (c) Survey method and procedure, type of instruments, components measured, sensitivity, precision, and scale constant of instruments;
  - (d) Units measured, values, determinations, and other basic numerical data obtained corrected and plotted at an appropriate scale and the interpretation of these as profiles, contours, zones of variation, anomalies, etc.;
  - (e) Other pertinent data such as topography overburden cover, drainage and groundwater, results of prior work and of other surveys or observations;
  - (f) Dates on which work was done and names of all contractors.
- (2) With respect to geochemical surveys the following additional information is required:

Nature of soil horizons and unconsolidated sediments observed and sampled (species and parts of plants observed in biogeochemical surveys), period and depth of sampling, samples preparation, methods of analysis, and name of laboratory.
- (3) With respect to geological surveys the following additional information is required:

Outline of outcrops, nature and attitudes of the various rock types exposed, textural and metamorphic features, geologic structures and mineralization observed.

## 4. AIRBORNE SURVEYS

Maps and reports indicating:

- (a) Location and dates of survey and flight lines, grid shown in relation to identifiable surface features;
- (b) Survey method and procedure and precision control, aircraft speed and ground clearance, type and particulars of airborne instruments;
- (c) Complete results in appropriate form;
- (d) In the case of an airborne geochemical survey:
  - (i) Results of control surveys over known ore and known barren ground;
  - (ii) Detailed meteorological conditions;
  - (iii) Vegetation cover;
- (e) Dates on which work was done and names of all contractors.

## 5. DRILLING

- (a) Map (scale: 1,000 feet to the inch or more detailed) showing collar location and horizontal projection of each hole;

- (b) Complete drill core logs with assay results and submission of core if required;
- (c) Size of core;
- (d) Location of core storage.

#### **I. EFFECTS OF FEDERAL GOVERNMENT INVESTMENT AND TRADE POLICIES ON MINERAL EXPLORATION**

This topic was discussed at some length, particularly with respect to the role of Federal and Provincial Crown corporations in mineral exploration.

#### **J. DISCUSSION FOR THE NEED FOR A CANADIAN POLICY WITH REGARD TO EXPLORATION FOR URANIUM**

Two motions were carried:

1. That Committee No. 2 recommend to the Mines Ministers that they ask the Federal Government for clarification of their uranium regulations.
2. Whereas if Canada is to maintain its present competitive position in the nuclear field significant new uranium reserves will have to be discovered and developed;  
Whereas uranium exploration in Canada has been at a virtual standstill since the policy statements of March 2, 1970;  
Be it resolved that any legislation implementing this policy should be provided sufficient incentive to foster a healthy uranium industry in Canada.

#### **K. OTHER BUSINESS**

The following motions were passed:

- (1) With respect to mining activity in Canada:  
Whereas individual and small mining organizations carry out much of the exploration work in Canada; and  
Whereas such organizations discovered most of the mines now active in Canada; and  
Whereas the financial and operational health of these organizations has been seriously impaired through various regulatory and restrictive actions of governments and financial institutions;  
Be it resolved that the Mines Ministers seek ways and means of improving and encouraging the functions of these groups through government policy improving and simplifying financing and operating requirements for such groups.
- (2) With respect to the work of Committee No. 2:  
It is recommended that the work of this committee be continued in view of the interest shown each year in the items on its agenda.

### **RESPONSE BY THE MINISTERS OF MINES**

**Toronto, November 22, 1973**

Item A. No comment.



- Item B. Agreed that the committee in mining regulation should continue its work and that the reports of the committee should be made available to the mining associations in their jurisdictions.
- Item C. No comment.
- Item D. Noted that it was desirable to have all provinces participate on a national scale and suggested each province should be contacted.
- Item E. No comment.
- Item F. No comment.
- Item G. Agreed that the Federal and Provincial Governments should continue to conduct research into geochemical methods of exploration and to develop regional geochemical patterns for all Canada.
- Item H. Commended the Task Force investigating the submission and disclosure of exploration data and agreed that full disclosure was an end worthy of achievement.
- Item I. No comment.
- Item J. Agreed with the recommendation of the committee and reworded the request to the Federal Government to read: "to clarify its position vis-a-vis all facets of uranium exploration and development as soon as possible and that if any changes are being made, there be meaningful consultation between the Federal and Provincial governments."
- Item K. Agreed with the recommendation of the committee and reworded it to read: "that the Ministers of Mines consider whether there are ways and means of improving and encouraging the function of those groups through government policy, improving financing and operating requirements of such groups."

### REPORT OF COMMITTEE NO. 3

#### ROYALTIES, TAXATION, AND TARRIFFS

CO-CHAIRMEN: Mr. G. A. Jewett  
Mr. C. A. Perry

#### A. REVIEW OF PREVIOUS BUSINESS OF COMMITTEE

At the 29th Annual Conference in 1972, the Ministers agreed that Statistics Canada continue to publish exploration expenditure data and that an effort be made to complete the preparation of related employment data at an early date.

The Committee was informed that the Federal Government concurred with the recommendation of the Ministers.

#### B. RESUME OF CHANGES IN MINING AND RELATED TAXES

- (1) Saskatchewan, Alberta, and British Columbia reported an upward adjustment in the royalties on oil, and that an adjustment of royalties on natural gas was under consideration.
- (2) British Columbia reported also that:
  - (a) The *Copper Bounty Act* and *Iron Bounty Act* have been repealed.
  - (b) The provincial corporate income tax rate has been increased from 10 per cent to 12 per cent.

- (c) A new *Corporation Capital Tax Act* imposes a levy of one-tenth of one per cent on the paid-up capital of all companies including mining corporations.
- (d) The new *Mineral Land Tax Act* applies a levy to Crown-granted freehold mineral rights. The basic tax is from 25 cents to \$1 per acre. Any area may be declared a production area to which, in addition to the preceding, a tax of \$2 per acre is levied plus, a tax based on assessed value.
- (3) Other provinces reported no change, although several provinces are reviewing mining taxes and royalties.

## C. TAXATION

Members of three separate panels presented papers on tax topics related to the mineral industry. The panels were composed of eminent tax consultants or advisors to industry and government. Copies of some of the papers were not available at the time of publication so only the topic is included in this report. Other papers are included in full.

The tax topics discussed were as follows:

### (1) INTERNATIONAL TAXATION OF MINES

- (a) *Australia — Income Tax*

## INTRODUCTION

This paper sets out the main features of the Australian income tax law applicable to prospecting and mining enterprises. In it reference is made from time to time to numbered 'sections.' These references are to the provisions of the *Income Tax Assessment Act 1936-1973* — the basic Australian legislation under which income tax is levied.

Some provisions of the Assessment Act have been changed by amendment in recent months and further changes are proposed in the Budget handed down by the Treasurer (Mr. Frank Crean) on 21 August 1973. Some of these changes effect, directly or indirectly, the provisions relating to the mining industry. These have been taken into account in the discussion that follows.

## TAXABLE INCOME

Under the Assessment Act income tax is levied on an amount known as the 'taxable income.' Taxable income is the total of all assessable income less allowable deductions.

In broad terms, assessable income is the gross income, other than amounts that the law specifically exempts from tax.

A resident of Australia is, as a general rule, exempt from tax on income (other than dividends) having its source outside Australia and Papua-New Guinea, if the income has borne tax in the country of its origin.

Persons (including companies) who are not residents of Australia pay Australian tax by assessment on income derived directly from sources in Australia which are not subject to withholding tax. Australian tax is not charged on their income from sources wholly outside Australia and that income is not taken into account in determining the rate or amount of tax payable on their Australian income. Withholding tax is payable on dividends received by non-residents from Australian companies and on interest paid from Australia. The withholding tax is a final tax and income on which it is paid is not subject to tax by assessment.

Deductions allowable from assessable income include expenses incurred in gaining or producing the assessable income or necessarily incurred in carrying on a business to produce the income. Deductions are also allowed for depreciation of plant owned by the taxpayer and used in the production of assessable income, for certain bad debts, contributions to employees' superannuation funds and a number of other items of expenditure. Business losses may, within limits, be deducted from the income of subsequent years.

Expenses of a private, domestic, or capital nature are not generally deductible from assessable income. Persons engaged in prospecting or mining operations may, however, qualify for deductions of a wide range of capital expenditure.

## DEDUCTIONS FOR CAPITAL EXPENDITURE

While capital expenditure is not an allowable deduction under the general provisions of the income tax law, the position of the mining industry is distinguishable from that of other industries since its reserves of raw materials cannot be replaced. As a mine is worked, the mineral deposits come nearer to exhaustion and there is generally a corresponding diminution in the value of assets associated with the mine. This important factor is recognized in the income tax law, which authorizes special deductions for capital expenditure incurred in developing and operating a mine for the purpose of earning assessable income.

Different bases of deductions are provided for capital expenditure incurred in general mining operations and for capital expenditure incurred in petroleum mining operations. Briefly stated, the allowances are available on the following bases:

### General Mining

#### A. *Exploration or Prospecting Expenditure*

A deduction is allowable from income of the year in which exploration or prospecting expenditure is incurred up to the amount of net income derived during that year from a mining business or associated activities (section 122J). Any balance of the expenditure not so deducted is deductible over the life of the mine.

#### B. *Allowable Capital Expenditure on Mining and Certain Treatment of Minerals*

This expenditure may be deducted, at the option of the mining enterprise, on any of the following bases:

- (a) Annual deductions over the life of the mine (section 122D);
- (b) A deduction for the expenditure in the year in which it is incurred (section 122E);
- (c) Where income of a year is appropriated for expenditure to be incurred in the next year, a deduction in the year in which the income is derived of the amount so appropriated (section 122G);
- (d) Annual deductions as depreciation allowances for mining plant (section 122H).

#### C. *Expenditure on Housing and Welfare*

At the option of the mining enterprise, this expenditure may be deducted:

- (a) Over a life of the mine (section 122D); or
- (b) Over a period of five years (section 122E).

## **Petroleum Mining**

Allowable capital expenditure incurred in prospecting or mining for petroleum is deductible from income derived from the sale of petroleum obtained in Australia until the expenditure has been fully recouped (section 124DG).

## **GENERAL MINING**

### **Exploration or Prospecting Expenditure**

Under section 122J deductions are, within limits, allowable for expenditure on exploration or prospecting, other than for petroleum, on mining tenements in Australia or Papua-New Guinea. Other provisions govern the deductions allowable in relation to prospecting and mining for petroleum.

For the purpose of section 122J, exploration and prospecting includes activities such as geological mapping, geophysical surveys, systematic searches for areas containing minerals and the more detailed searches for ore deposits undertaken by drilling or other means. Where an orebody has been located, exploration and prospecting includes searches within that orebody or in its vicinity by means of drives, shafts, crosscuts, winzes, rises and drilling if these activities are not part of normal mining operations directed towards the extraction of minerals rather than their discovery.

Exploration and prospecting expenditure incurred by an enterprise during a year is allowable as a deduction up to the amount of net income derived by it during that year from carrying on a mining business and from activities directly or indirectly associated with that business. If the exploration and prospecting expenditure exceeds the net mining income, the amount of the excess is carried forward as residual capital expenditure deductible over the life of the mine.

An enterprise engaged in prospecting or exploration which has no mining income can carry the amounts expended by it in searching for minerals forward for deduction over the life of the mine when mining operations are commenced. The expenditure may qualify for this deduction even though it does not relate to the area in which the enterprise commences mining operations.

### **Allowable Capital Expenditure on Mining and Certain Treatment of Minerals**

Section 122A specifies the categories of capital expenditure that may qualify for the special deductions available to mining enterprises. The expenditure must be incurred by an enterprise that is engaged in, or preparing to engage in, mining operations on a mining property in Australia or Papua-New Guinea for the extraction of minerals, other than petroleum, from their natural site. The deductions are allowable only where the mining operations are carried on for the purpose of earning assessable income.

In broad terms, capital expenditures covered by section 122A include expenditure:

- (a) In preparing a site for mining operations to extract minerals, e.g., surveys for the location of mine buildings, the clearing of a minesite, removal of overburden, etc.;
- (b) On buildings, other improvements and plant necessary for the carrying on of the extractive operations, e.g., work shops, mine offices, storage facilities, mine shafts and tunnels, drilling equipment, bulldozers, etc.; and
- (c) In providing water, light or power for use at the minesite, access to the site, communications with the site, e.g., reservoirs, power plants, telephone lines; the capital cost of these facilities qualifies for special



deduction whether borne directly by the mining enterprise or by contributions it makes to expenditure outlaid by, for example, a government authority which supplies facilities of this kind.

(d) On housing and welfare.

Expenditure incurred by a mining enterprise on plant used primarily and principally in the treatment of minerals it has mined is, within limits, subject to the special deductions. Qualifying plant is that which is used in processes applied up to and including concentration of the minerals. The place at which the treatment plant is installed is of no significance; it may be located at or near the minesite, or many miles distant from it.

Treatment plant eligible for the special deductions includes plant used in cleaning, leaching, crushing, grading, breaking, screening, grading, or sizing a mineral and concentration of a mineral by a gravity, magnetic, electrostatic, or flotation process. Also included is plant used in any other treatment applied to a mineral where the treatment is applied before concentration or would, if the mineral had required concentration, have been applied before concentration. As already indicated, it is necessary for the treatment to be carried out by the enterprise which mined the minerals in order that the cost of the plant may qualify as allowable capital expenditure.

Plant used in the sintering or calcining of minerals, in the production of alumina, or in the production of pellets or other agglomerated forms of iron is specifically excluded from the scope of treatment plant the cost of which may qualify for the special deductions available to mining enterprises. Ordinary depreciation allowances are available in respect of plant to which the special deductions do not apply.

The cost to a mining enterprise of plant or buildings, used directly in connection with the operation or maintenance of eligible treatment plant and buildings, or other improvements used directly in connection with the storage of minerals both before and after treatment, qualifies as allowable capital expenditure. Such plant, buildings, or other improvements would include, for example, a power plant necessary for the operation of the treatment plant, buildings housing the treatment and power plant, associated work shops, and paved storage areas including any covering provided for those areas.

Expenditure incurred by a mining enterprise in providing housing and welfare at or adjacent to the minesite for mine employees and other employees engaged on operations connected with the operation of the mine qualifies as allowable capital expenditure — this is discussed later under a separate heading.

Where the sole and principal business of a company is the carrying on of prescribed mining operations, allowable capital expenditure includes the costs incurred in forming and incorporating the company and expenses of raising share capital to be used for mining or prospecting purposes.

Allowable capital expenditure may include, within the limits specified in section 122B, the cost of acquiring a mining or prospecting right and mining or prospecting information. The deduction available to the purchaser is limited to so much of the cost as is specified in a notice signed by each of the parties to the transaction and given to the Commissioner of Taxation under that section. It is also limited, broadly, to so much of the expenditure of the vendor of the right or information on prospecting for minerals, and on development of a mine in the area subject to the right, as has not been allowed as deductions. To this is added any amount taxed in the vendor's hands as a balancing adjustment in consequence of his sale of the right.

Broadly, a mining or prospecting right includes an authority, licence, permit or right to mine or prospect in a particular area. It also includes a lease under the terms of which the lessee is entitled to mine or prospect for minerals. An interest in such an authority, licence, permit, right, or lease qualifies as a mining or prospecting right. The term embraces any rights in respect of buildings or other improvements on the land concerned or used in connection with

operations on that land which are acquired with the mining or prospecting right. Mining or prospecting information means geological, geophysical, or technical information that relates to the presence, absence, or extent of mineral deposits (other than petroleum) in an area which has been obtained by mining or exploration or prospecting.

### **Exclusion from Allowable Capital Expenditure**

In addition to expenditure on treatment plant already referred to, certain other categories of capital expenditure are specifically excluded from the scope of the special deductions allowable under the provisions applicable to general mining [Section 122A (2)].

Expenditure incurred on ships, railway rolling stock or road vehicles, or on railway lines, roads, pipe-lines, or other facilities used in the transport of minerals or products of minerals is excluded. These exclusions do not apply to transport plant or facilities used wholly within the minesite, e.g., the cost of vehicles used exclusively for extractive operations at the mine. Normal depreciation allowances are available in respect of ships, railway rolling stock, and road vehicles used to transport minerals or products of minerals. A special allowance is provided for the cost of railway lines, roads, pipe-lines, or other facilities used in transporting minerals or products of minerals. (Discussed later under 'Transport of Minerals.')

Also excluded from the scope of the special deductions is expenditure on plant, buildings, or other improvements used in connection with the establishment, operation, or use of a port or other facilities for ships. These exclusions extend to expenditure on housing and township facilities for port employees, wharves and wharf plant, roads, harbour surveys and dredging. Depreciation allowances are available in respect of wharves and wharf plant.

### **Annual Deduction Based on Life of the Mine**

If a mining enterprise does not elect to adopt one of the alternative bases of deduction, allowable capital expenditure incurred by it is deductible over the life of the mine to which the expenditure relates. Where an enterprise is carrying on mining operations on more than one mining property, separate calculations are to be made for each property.

To arrive at the deduction available for an income year, the allowable capital expenditure incurred during that year is, in effect, added to the undeducted expenditure of earlier years. The residual capital expenditure is then divided by the number of whole years in the estimated life of the mine at the end of the year of income or by twenty-five, whichever is the lesser.

The amount thus ascertained is, in the majority of cases, the amount allowable as a deduction. If, however, the net income of the enterprise from mining and other activities is insufficient to absorb the amount to be deducted on that basis, the deduction is limited to the amount of the next income. The undeducted amount is retained in the residual capital expenditure and is deductible in subsequent years.

This procedure is designed to ensure, as far as possible, that mining enterprises are allowed effective deductions in years in which they have sufficient income from which deductions may be allowed. If, however, an enterprise does not wish the deduction to be limited to the net income of a particular year, it may elect that the limitation shall not apply. In that event, any loss will be carried forward for up to seven years and allowed as a deduction when income is available.

The term 'residual capital expenditure' mentioned above is discussed later in more detail under a separate heading.

### **Deduction of Expenditure in Year in Which It Is Incurred**

In lieu of deductions over the estimated life of the mine, a mining enterprise may elect that allowable capital expenditure (other than expenditure on housing and welfare or on the purchase of a mining or prospecting right or information) be deducted from income derived during the year in which the expenditure was incurred (Section 122E).

The election may be made in respect of the whole of the expenditure incurred on any unit or units of plant or the whole or any part of other allowable capital expenditure. An election may not be made in respect of part only of the cost of a particular unit of plant. However, it can relate to one or more complete units of plant leaving the expenditure on other units to be deducted over the life of the mine or by way of depreciation allowances.

An election has effect in respect of expenditure on units of plant referred to in the election and in respect of other allowable capital expenditure specified in the election. A separate right to make an election arises in each year in which allowable expenditure is incurred by a mining enterprise.

### **Deduction of Income Appropriated for Allowable Capital Expenditure**

A mining enterprise that appropriates income of a year to meet allowable capital expenditure may elect to deduct so much of the amount appropriated as has not been expended during the year in which the income was earned. Such an election may not, however, be made in relation to an appropriation for expenditure on housing and welfare or on the purchase of mining rights or information (Section 122G).

The amount claimed in relation to an appropriation of income needs to be stated in the election. The deduction allowable is so much of the amount appropriated as the Commissioner of Taxation is satisfied has been, or is likely to be, expended as allowable capital expenditure not later than the end of the income year next succeeding the year in respect of which the appropriation is made. An appropriation of income for this purpose may be made during the year in which the income is derived or within two months after the end of that year or within such further time as the Commissioner allows.

Where a deduction has been allowed in an income year for an appropriation of income, an amount equal to that deduction is included in the assessable income of the next succeeding year. The amount so included in the assessable income is offset by the deduction allowable in that year for expenditure incurred out of the appropriated income.

### **Deduction of Depreciation on Plant**

Where the cost of plant is deductible under any one of the bases discussed in this chapter, depreciation allowances on the plant *are not available*.

A mining enterprise is, however, entitled to elect that none of these bases shall apply to some or all of its expenditure on mining or treatment plant (section 122H). If this election is made, annual allowances for depreciation replace the deductions that would otherwise be available on the special bases.

The annual rate of depreciation on any unit of plant is determined by the Commissioner of Taxation on the basis of the effective life of the unit, assuming it is maintained in reasonably good order and condition. This rate is increased by 50 per cent if depreciation is claimed on the diminishing value method.

Rates of depreciation that have been determined for some classes of mining plant include:

	Percentage Allowed	
	Prime Cost Method	Diminishing Value Method
Mining machinery and plant generally . . . . .	7½	11½
Mechanical coal mining plant, comprising cutters, loaders, and shuttlecars . . . . .	12½	18¾
Bulldozers . . . . .	15	22½
Motor trucks — normal . . . . .	15	22½
Motor trucks — heavy duty . . . . .	20	30
Mine cars . . . . .	10	15
Skips in coal mines . . . . .	7½	11¼
Rolling stock (trucks for carriage of coal) . . . . .	2½	3¾
Conveyor units —		
Rubber belts . . . . .	15	22½
Idlers . . . . .	12½	18¾
Motor, drive, and structure of conveyor system . . . . .	7½	11¼

### Residual Capital Expenditure

Reference has been made in this paper to the residual capital expenditure upon which the annual deductions allowable to mining enterprises are based.

The method of calculating the residual capital expenditure is set out in Section 122C. As already mentioned, the residual capital expenditure is divided by the lesser of the number of years in the estimated life of the mine as at the end of the year of income by twenty-five to determine the annual deduction allowable.

Broadly stated, the residual capital expenditure at the end of a year of income is calculated by ascertaining the total of the allowable capital expenditure incurred to the end of that year and the amount of exploration or prospecting outgoings not deducted in the year of expenditure. From that total there is deducted the sum of:

- Special deductions granted for allowable capital expenditure under the provisions already discussed.
- The cost of housing and welfare in respect of which an election has been made to deduct the cost over five years.
- The undeducted portion of expenditure on mining assets that have been sold or scrapped or that, for any reason, have ceased to be used in connection with the mining operations or as housing and welfare.

If an election has been made to have the cost of mining plant deducted under the normal depreciation provisions instead of on one of the special bases provided, the cost of the plant does not fall into the residual capital expenditure of the plant owner.

### Deduction of Expenditure on Housing and Welfare

Expenditure incurred by a mining enterprise on housing and welfare in carrying on mining operations on a mining property in Australia or Papua-New Guinea to extract minerals for the purpose of producing assessable income may, at the option of the enterprise, be deducted on either of the following bases:

1. Annual deductions over the life of the mine.
2. Annual deductions over the period of five years.



For the purposes of these deductions, houses, apartments, and other quarters situated at, or at a place adjacent to, the minesite and used as residential accommodation by the employees engaged in the mining operations, or in activities connected with those operations, and their dependants are classified as housing and welfare. Health, educational, recreational, and other similar facilities situated at, or at a place adjacent to, the minesite and provided principally for the welfare of those employees and their dependants also qualify as housing and welfare, if the facilities are not conducted by the mining enterprise, or any other person, for profit-making purposes.

Facilities for the provision of meals, medical, and dental clinics, child welfare centres, hospitals, libraries, play-centres, sports arenas, and swimming pools are within the scope of the improvements that may be treated as housing and welfare. So are works carried out directly in connection with the residential accommodation or other facilities such as the provision of water, light, power, access roads, or communications.

Unless a mining enterprise elects otherwise, housing and welfare is included in the residual capital expenditure and thus deductible over the life of the mine (Section 122A).

The enterprise is, however, entitled under Section 122F to elect for the allowance of deductions over a five-year period. If this election is made, one-fifth of the expenditure to which the election relates is deductible in the year in which it is incurred, and one-fifth is deductible in each of the four succeeding years.

A separate right to make this election arises in relation to the housing and welfare expenditure of each year and the election applies to the whole of the expenditure incurred on housing and welfare during the year for which it is made.

### **Disposal of Mining Assets**

In the course of carrying on a mining enterprise, assets in respect of which deductions have been granted on one of the special bases may be sold, lost, or destroyed. It may also occur that such assets cease to be used for mining purposes and are put to other uses. Section 122K authorizes appropriate balancing adjustments in each of these situations.

Where the assets are sold, lost, or destroyed it is necessary for the sale price or any other proceeds flowing from the event to be compared with the amount of capital expenditure outlaid on the assets which at that time remains undeducted. If the amount received in consequence of the particular event is less than the undeducted expenditure on the assets, the difference is allowed as a deduction. The total of the deductions is thus equated with the amount by which the cost of the assets exceeds the consideration received.

In other cases, the amount received may be greater than the undeducted expenditure on the assets. In these circumstances the excess of the sale price or other proceeds over the undeducted expenditure is taken to account as assessable income. The amount included in the assessable income does not, however, exceed the total deductions allowed in respect of the expenditure on the assets.

A balancing adjustment is also made if a mining asset for which deductions have been allowed is transferred for use in other business activities of the mine owner. As there would be no sale price or other proceeds in these cases, the value of the asset at the time it ceases to be used for mining purposes is taken into account in calculating the additional deduction or the amount to be treated as assessable income, as the case may be. If plant is used in other business activities, depreciation allowances based on its value at the time of transfer to these activities are available.

## TRANSPORT OF MINERALS

Special deductions are authorized by Section 123B for capital expenditure incurred on certain transport facilities used primarily and principally in relation to minerals mined in Australia or Papua-New Guinea.

In the general mining field, the deductions apply to facilities used for the transport of the raw minerals and certain specified materials (e.g., alumina, blister copper, iron ore pellets) obtained from the processing of such minerals.

In the petroleum mining field, the deductions are available where the transport facility is used for transporting petroleum (i.e., crude oil and natural gas) between the oil or gas field and a refinery or other terminal. Deductions are not available in respect of capital expenditure on facilities used to transport petroleum products or to reticulate gas to consumers.

The special deduction applies to expenditure incurred on, or by way of contribution to the cost of, a railway, road, pipe-line, or other transport facility. Expenditures on earthworks, bridges, tunnels, etc., necessary in the construction of the facility, compensation payments made to enable the construction to be carried out and payments for rights to construct the facility are subject to the special deduction. The deduction is not, however, available for the cost of railway rolling stock, road vehicles, ships, or port facilities. Nor is it available for the cost of transport facilities used wholly within the minesite or which form part of petroleum mining operations where that cost is deductible under the special mining provisions applicable either to general mining or petroleum mining.

Expenditure eligible for the special deductions is deductible in equal annual instalments over a period of ten years commencing with the first income year in which the facility is used primarily and principally for the transport of minerals, or, in the case of general mining, certain products of minerals.

A person who incurs capital expenditure on a transport facility is eligible for the special deduction even though he is not, himself, engaged in mining operations. Moreover, it is not necessary for the person incurring the expenditure to own the facility. The deduction would be available for example, in respect of expenditure incurred on a railway constructed on leased land by the lessee where the ownership of the railway will vest in the lessor at the end of the lease.

The special deduction ceases to be allowable where a transport facility is disposed of, lost or destroyed, or is no longer used primarily and principally in transport that qualifies under the special provision. Balancing adjustments are then made on a similar basis to that already explained in the previous section in relation to disposals of mining assets.

## PROSPECTING AND MINING FOR PETROLEUM

An enterprise producing petroleum in Australia or Papua-New Guinea is entitled to special deductions for allowable capital expenditure it has incurred in searching for petroleum in Australia or Papua-New Guinea and mining petroleum in either place.

The special deductions are allowable only from income derived from the sale of petroleum produced in Australia or Papua-New Guinea or products of such petroleum (Section 124DG). In effect, the allowance operates to free the proceeds of the petroleum from Australian tax until all allowable capital expenditure of the enterprise mining the petroleum has been recouped by it.

For all purposes of the income tax law relating directly or indirectly to the exploration for, or the mining of petroleum, 'Australia' includes the Australian continental shelf and 'Papua-New Guinea' includes the continental shelf of that Territory. Thus, taxpayers are entitled to the same income tax deductions in relation to petroleum

activities on the continental shelves of Australia and the Territory as they would be if the activities had been carried out on the respective mainlands.

### **Allowable Capital Expenditure on Petroleum Prospecting and Mining**

For the purposes of the special deduction available to petroleum mining enterprises, allowable capital expenditure embraces all capital expenditure incurred by an enterprise on petroleum prospecting or mining operations in Australia or Papua-New Guinea and on plant necessary for carrying on such operations Section 124DD).

The following classes of expenditure would normally qualify as allowable capital expenditure and thus be eligible for the special deduction:

- (a) Exploratory surveys of an area;
- (b) Petroleum drilling plant and the cost of drilling;
- (c) Pumping plant and plant at the well head used to remove gas, water, or other impurities from the petroleum;
- (d) Pipe-lines and storage tanks at the well head; and
- (e) Access roads, power lines, telephone lines, and similar improvements are used in carrying on the prospecting or mining operations.

Certain special cases of capital expenditure are specifically brought within the scope of allowable expenditure. In broad terms, these special classes of expenditure are:

- (a) Where the producer is a company, costs incurred in forming the company and expenses of raising share capital to be used for petroleum prospecting or mining purposes;
- (b) Expenditure on housing and welfare if these improvements are situated on, or adjacent to, the site of the prospecting or mining operations; and
- (c) Within specified limits, the costs of acquiring a petroleum prospecting or mining right or prospecting or mining information. The amount deductible is limited to the unrecouped capital expenditure of the vendor at the end of the year in which the right or information is sold. The allowance of the deduction is dependent upon a written notice of agreement between the vendor and the purchaser being lodged with the Commissioner of Taxation under section 124DE.

### **Exclusions from Allowable Capital Expenditure**

Some categories of capital expenditure are specifically excluded from the scope of the allowable capital expenditure that is eligible for the special deduction available to petroleum mining enterprises. These are:

- (a) Expenditure on pipe-lines constructed for the transport of petroleum mined in Australia or Papua-New Guinea (other than transport forming part of the mining operations), or plant (including pumping apparatus, storage tanks, port facilities, and other terminal facilities) for use primarily and principally, and directly, in connection with the operation of such a pipe-line;
- (b) Expenditure on ships, railway rolling stock, and road vehicles for use for the transport of petroleum mined in Australia or Papua-New Guinea other than road vehicles for use in the mining operations; and
- (c) The cost of a petroleum refinery.

Expenditure so excluded may qualify for deduction either under the special transport provisions or under the normal depreciation revisions.

## Unrecouped Capital Expenditure

The actual deduction allowable to a petroleum mining enterprise is determined by reference to the unrecouped capital expenditure of the enterprise calculated in accordance with Section 124DF.

The unrecouped capital expenditure is the total allowable capital expenditure incurred by the mining enterprise up to the end of the year of income as reduced by certain specified amounts. A petroleum exploration company may therefore carry its unrecouped capital expenditure forward indefinitely until such time as it produces petroleum in Australia or Papua-New Guinea in commercial quantities. When assessable income is derived from the sale of that petroleum, deductions for the unrecouped capital expenditure are allowed up to the net amount of the income remaining after taking into account general operating expenses to the extent to which these expenses relate to the petroleum income.

There are eight different items to be taken into account in calculating the amount of unrecouped capital expenditure available for the special deduction. In the interests of simplicity these items are summarized in broad terms below and technical refinements are disregarded. The amount to be deducted from the allowable expenditure is the sum of:

1. The total of the special deductions allowed in previous years in respect of allowable capital expenditure.
2. The total of amounts of net exempt income from petroleum derived by the enterprise during the year of income and previous years; this class of income could be earned from sales of the petroleum overseas if the sales are made and is subject to income tax in that country.
3. The total of petroleum search subsidies paid to the enterprise by the Commonwealth of Australia.
4. An amount received on the sale of a petroleum prospecting or mining right or information which has been the subject of a notice given by the vendor and the purchaser to the Commissioner of Taxation under Section 124DE.
5. The total values of assets that have ceased to be used in petroleum prospecting or mining operations otherwise than by disposal, loss, or destruction of the assets.
6. Considerations receivable on the disposal, loss, or destruction of assets, other than a petroleum prospecting or mining right, that have been used in petroleum prospecting or mining operations.
7. Compensation received from the Commonwealth Government in respect of machines used in petroleum prospecting or mining operations that required conversion to decimal currency.

The eighth item relates to the amount of monies paid on shares in the company which had been specified by it in a 'declaration' made for the purpose of 'Section 77D.' By a recent amendment, Section 77D has no application to payments made to a company after 7 May 1973.

In brief, the unrecouped capital expenditure is, as its name implies, the net amount of allowable expenditure that remains to be deducted from assessable income derived from the sale of petroleum obtained in Australia or Papua-New Guinea or products of such petroleum.

## Deductions for Unrecouped Capital Expenditure

A deduction for unrecouped capital expenditure of an enterprise as at the end of the year of income is allowable from the assessable income derived by the enterprise from the sale of petroleum mined by it in Australia or Papua-New Guinea or products of that petroleum. Accordingly, the deduction commences to be allowable only when an enterprise produces petroleum in commercial quantities (Section 124DG).



The deduction is limited to the net amount of assessable income from petroleum remaining after deducting from that income, under other provisions of the income tax law, all allowable deductions which relate to the income. If the unrecouped capital expenditure exceeds the net assessable income from petroleum, the excess is carried forward for deduction in a subsequent year when further assessable income from petroleum is derived.

### **Disposals of Petroleum Mining Assets**

As already mentioned, where assets that have been used in petroleum prospecting or mining operations are sold, lost, or destroyed, or cease to be used in those operations, the unrecouped capital expenditure is adjusted in respect of such assets.

If the value of an asset which ceases to be used in petroleum prospecting or mining operations exceeds the unrecouped capital expenditure, the excess is included in the assessable income of the enterprise. However, where the asset is used in other activities producing assessable income, deductions may be allowable under other provisions of the income tax law where this is appropriate. Plant, for example, used in general business operations could be subject to depreciation allowances based on the value of the plant when it commences to be used.

Where the consideration received on the disposal, loss, or destruction of an asset used in petroleum prospecting or mining operations exceeds the unrecouped capital expenditure, the excess is included in the assessable income of the enterprise. No amount will, however, be included in the assessable income until the enterprise is producing petroleum in commercial quantities. Until that stage is reached, the excess is carried forward in the calculation of the unrecouped capital expenditure of the enterprise for each year. When further allowable capital expenditure is incurred the excess is, in effect, set off against that expenditure.

## COMMONWEALTH OF AUSTRALIA

### INDIVIDUALS

The rates of income tax shown hereunder are applicable to all forms of taxable income derived by individuals during the year ending 30 June 1973:

#### Total Taxable Income

Not Less Than		Not More Than		Tax at General Rates on Total Taxable Income		
\$		\$				
1,121	1,200	53.56	plus	9.8	per centum of excess over	1,000
1,200	1,400	61.30	plus	11.3	per centum of excess over	1,200
1,400	1,600	83.90	plus	12.7	per centum of excess over	1,400
1,600	1,800	109.30	plus	14.1	per centum of excess over	1,600
1,800	2,000	137.50	plus	15.4	per centum of excess over	1,800
2,000	2,400	168.30	plus	17.2	per centum of excess over	2,000
2,400	2,800	237.10	plus	19.6	per centum of excess over	2,400
2,800	3,200	315.50	plus	22.0	per centum of excess over	2,800
3,200	3,600	403.50	plus	24.4	per centum of excess over	3,200
3,600	4,000	501.10	plus	24.8	per centum of excess over	3,600
4,000	4,800	608.30	plus	30.3	per centum of excess over	4,000
4,800	5,600	850.70	plus	33.3	per centum of excess over	4,800
5,600	6,400	1,117.10	plus	35.7	per centum of excess over	5,600
6,400	7,200	1,402.70	plus	37.9	per centum of excess over	6,400
7,200	8,000	1,705.90	plus	39.9	per centum of excess over	7,200
8,000	8,800	2,025.10	plus	41.8	per centum of excess over	8,000
8,800	10,000	2,359.50	plus	44.1	per centum of excess over	8,800
10,000	12,000	2,888.70	plus	48.2	per centum of excess over	10,000
12,000	16,000	3,852.70	plus	54.6	per centum of excess over	12,000
16,000	20,000	6,036.70	plus	60.3	per centum of excess over	16,000
20,000	40,000	8,448.70	plus	64.0	per centum of excess over	20,000
40,000		21,248.70	plus	66.7	per centum of excess over	40,000

NOTE: No tax payable unless *Taxable Income* exceeds \$1,040.00.

Where the taxable income of a person does not exceed \$1,120 maximum tax payable is 66 2/3 per cent of amount by which taxable income exceeds \$1,040, less any rebate or credit to which entitled. Minimum tax payable, however, is 50 cents.

#### Example of Calculation

\*Taxable Income \$1,876

Tax on \$1,800	\$137.50
Tax on 76 at 15.4 per centum (nearest cent)	11.70
Tax on \$1,876	\$149.20

\*The average rate of total tax on \$1,876 is 7.95 per centum.

All amounts are shown in Australian currency.

(b) *Indonesia*

## CONTRACT OF WORK

Foreign enterprises may operate under terms of negotiated Contracts of Work containing regulations concerning mining rights and leases, taxation system, employment and training of Indonesian nationals, etc.

The following tax facts are subject to modification by a Contract of Work.

TAX	DESCRIPTION
Income	45 per cent on taxable income.
Withholding	
Dividends	20 per cent.
Interest	20 per cent.
Mining Royalty	Rates vary depending on mineral grade and degree of processing.
Property	Land rent rates vary from 10 cent to 2 dollars per hectare of concession.
DEDUCTIONS	DESCRIPITON
Exploration	Capitalized and amortized on straight line from 5 to 10 years beginning with the start of production.
Development	
Training Costs	
Depreciation	Mining machinery and processing equipment — straight line basis 8 to 12 years.
Net Operating Loss	General rule — four year carryforward. Losses incurred during first five years of production subject to longer carryforward period.

### TOP EFFECTIVE CORPORATE INCOME TAX

Taxable Income	100.0%
Corporate Tax	45.0
Withholding Tax on Dividends (20% of 55%)	11.0
Top Effective Tax Rate	56.0% *

\*Generally lower under negotiated 'Contract of Work.'

(c) *Mexico*

## MEXICANIZATION

Mining activities must be carried out through local corporations which must be at least 51 per cent Mexican owned.

TAX	DESCRIPTION
Income	Graduated from 5 to 42 per cent, the 42 per cent bracket is reached at a taxable income of \$120,000.
Withholding	
Dividends	20 per cent. Generally, companies may distribute dividends only up to the extent of their accounting profits.
Interest	Normal withholding. Graduated from 5 to 42 per cent; 10 per cent on interest payments for loans extended by foreign financial institutions and by foreign suppliers; 20 per cent on interest payments for loans held to be in the public interest.
Production and Export	Imposed on minerals extracted at rates varying from .86 per cent to 6.64 per cent depending on the mineral and the level of processing. Rates are imposed on market prices of minerals.  <i>Incentive</i> — Reduction of up to 100 per cent of federal share (approximately 95 per cent of total tax) negotiated on a company by company basis.
Property	Tax paid annually on mining concession by hectare.
DEDUCTIONS	DESCRIPTION
Exploration	Pre-exploration stage — amortized over life of mine through cost depletion. Exploitation stage — deductible currently.
Development	Same as exploration.
Net Operating Loss	Five year carryforward.
Depreciation	Machinery and equipment 10 per cent straight line. Accelerated rates may be authorized with government approval.

#### TOP EFFECTIVE CORPORATE INCOME TAX

Taxable Income	100.0%
Corporate Tax	42.0
Withholding Tax on Dividends (10% of 58%)	22.6
Top Effective Tax Rate	53.6%

- (d) *South Africa and South West Africa*  
(Other Than Gold and Diamond Mining)

#### DOING BUSINESS

Generally there is no discrimination between companies registered within or outside South Africa or South West Africa.

TAX	DESCRIPTION
Income	South Africa — 40 per cent on taxable income; South West Africa — 35 per cent on taxable income; both — 2½ per cent surcharge on the basic tax, plus a 5 per cent loan levy on tax, repayable no later than seven years.
Withholding	
Dividends	15 per cent; dividend payments are limited to accounting profits.
Interest	10 per cent.
Fees	12.3 per cent



DEDUCTIONS	DESCRIPTION
Exploration	Effective in 1973 all allowed as a deduction from income in the year production commences, or in the case of a producing mine when incurred.
Development	
Depreciation	
Net Operating Loss	Unlimited loss carryforward.

#### TOP EFFECTIVE CORPORATE INCOME TAX

	South Africa	South West Africa
Taxable Income	100.0%	100.0%
Basic Tax	40.0	35.0
Surcharge — 2½% X Tax	1.0	.9
Loan Levy — 5% X Basic Tax	2.0	1.7
	43.0	37.6
Withholding Tax on Dividends		
(15% of 57%)		
(15% of 62.4%)	8.5	9.4
Top Effective Tax Rate	51.5%	47.0%

(e) *Brazil* (paper not available)

(f) *Ireland and United Kingdom* (papers not available)

(g) *United States* (paper not available)

## (2) DOMESTIC TAXATION

(a) *Taxation in Quebec*

Real estate taxation in Quebec, as indeed everywhere else in Canada, was not considered too onerous a burden 15 or 20 years ago.

There were two basic reasons for this. Firstly, assessment levels were generally well below value and, secondly, money required by the taxing authorities was comparatively nugatory, resulting in quite low mil rates.

On top of this, the amelioration of assessment and of tax was frequently available to industry as an inducement to establish in this locality or that locality. An industry, about to establish, could shop around from municipality to municipality to get the best tax deal.

In those days the right to impose this sort of tax in Quebec was given mainly under two provincial acts. These were the *Cities and Towns Act* and the *Municipal Code*.

These enabling acts gave broad authority to assess land, buildings, and machinery. However, a municipality could alter the implication of these laws by applying to Parliament to pass a 'private bill' amending its charter.

It was, therefore, possible for a town to have a very different tax system to its contiguous neighbour. For example, on the Island of Montreal some years ago, there were 32 municipal real estate tax authorities. It is true to say that their assessment systems were all different. The City of Montreal itself did not assess machinery for example. The

nearby industrial cities of Lachine and Montreal East did. The relationship under the City of Montreal assessment system between assessment and value varied between 60 per cent and 85 per cent. Yet, the assessment was always euphemistically referred to as 'real value.'

Those were the good old days. No one quite knew where he stood but the burden of tax on this account was not excessive.

Then things began to alter. Education or school tax had always been levied on real estate assessment. Suddenly, educational costs began to rise. Mil rates for school tax, happily as low as 0.5 per cent for years, suddenly escalated to \$1.00 per cent and \$1.50 per cent and for businesses and industry, to \$2.80 per cent.

At the same time, municipal spending escalated to pay for new roads, for sewage treatment plants, and a hundred and one other social amenities that had now become a way of life.

Greater skill was required for assessors so that more accurate (and higher) assessment would be promulgated and defended.

All in all, the tax on real estate ceased to be a minor, little matter which companies were pleased to pay to promote local amenity and has become a serious percentage of total tax liability.

In Quebec it became clear in recent years that the central government authority had to regulate this source of revenue and to ensure, by a provincial act, that equity be established. To this end, Chapter or Bill 50 was introduced and passed into law by the Quebec Government in 1971. In the main it strove to impose unity of assessment for the province making land and buildings assessable at *market value*.

It abolished machinery assessment.

This act was rapidly amended by Bill 20 in 1972 and by Bill 33 in 1973. In this amending process, one cardinal advantage of Bill 50 got lost in the shuffle. The value level of an assessment, defined so bravely in the 1971 act as 'market value' (which expression was specifically explained in the act), ended up in 1973 as 'actual value' (which term is not defined).

In the case of *Rex vs. Walpole* in 1931, it was held that the words of a statute, when there is doubt as to their meaning, ought to be understood in the sense which they best harmonize with the subject of the enactment, and with the object which the legislator had in view. The language of the statute must now be strained to make it apply in cases which were not in view at the time the enactment was drawn.

I can see many long hours in the witness box over the years to come trying to convince the sceptical that I am not 'straining' the language of the 'statute' and that my opinion does harmonize with the views held by those weary legislators who pass the law at a quarter past three one snowy morning after a particularly long session of debate.

As is not unusual with new legislation, it will be clarified by case law over the next few years.

And neither do I take much solace from Section 7 of Bill 50 in which it is promised that 'guidelines' will be issued to help us decide what actual value really is. (The Department of Municipal Affairs had not completed these guidelines.)

Perhaps the removal of the formal definition of value indicates a new and encouraging confidence by the legislators in the professional ability of appraisers and assessors. Perhaps they too have read the opinion of Plato who wrote that value is the most difficult question of all science and decided not to risk definition.

However, we in Quebec have made a big step forward in the rationalizing of real estate taxation in the past couple of years. Our Government has decided to grapple with and to solve a very difficult problem.

Taxation is a philosophy. An acceptable formula to us might be totally unacceptable in Italy or in Germany.

So, in producing a new formula for Quebec, care had to be taken not to disrupt the philosophical acceptance of old methods but rather to bring them up to date, codify them, and ensure equity to all.

Even though the new Quebec legislation embodied in Bill 50 is of advantage to the Mining Industry in the short term, I have little doubt that in the future, the quantum of real estate tax in your industry will tend to increase and, therefore, an understanding of its technical intricacies is essential to the large taxpayer that he may be satisfied that equity is being done to him.

Jean Baptiste Colbert, a French politician to the court of Louis XIV said 'the art of taxation consists of so plucking the goose as to obtain the largest amount of feathers with the least amount of hissing.'

I think we all have the right to hiss a little on general principles, but, if we consider ourselves agrieved by over or wrongful assessment, we should also do some honking.

(b) *Taxation in Ontario, Manitoba, and Saskatchewan* (papers not available)

(c) *Taxation in Alberta* (paper not available)

(d) *Taxation in British Columbia* (paper not available)

### (3) SALES TAXES

(a) *Philosophical Revue of Sales Taxes*

Because ad valorem taxation is such a complex subject, amenable to different viewpoints, we wish to be quite explicit that the views expressed herein represent, at best, the consensus of the panelists and do not necessarily reflect or coincide with the views of the industry or any individual company or association.

An attempt will be made in our presentation to discuss commodity taxes in philosophical, political, and economic terms rather than comparing differing rates among various jurisdictions and endeavouring to explain these.

This paper contends that the business community in Canada is plagued not only by an excessive cumulative level of taxation but equally important, by an excessive number and kinds of taxes which not only reduce the competitive position of Canadian industry both in a domestic and external context, but which obscure, and quite likely by intent, the effective burden of taxation borne by Canadian producers, manufacturers, and consumers.

In the event that the preceding assertion strikes some of our friends in government as a surprising or ungrateful assessment of the situation, this contention can be illustrated by reference to two publications produced by the Mining Industry in Canada.

The first of these is entitled, *The British Columbia Mining Industry*, and is a very detailed and comprehensive statistical description of that industry, prepared by Price Waterhouse and Company on behalf of the Mining Association of British Columbia.

One of the tables of this report, which is entitled, *Taxes — Government of Canada*, shows that for the year 1971 the industry was subject to at least three different federal taxes. Another table, entitled, *Taxes — British Columbia*, shows that it was also subject to at least nine different provincial taxes. In summary, then not less than 12 different federal and provincial taxes bore on the Mining Industry in British Columbia in 1971.

A similar study to that prepared for the Mining Association of British Columbia is prepared annually for the Quebec Metal Mining Association by the accounting firm of Boulanger, Fortier, Rondeau and Company. The study shows that the metal mining industry in that province for 1971 was subject to at least four different local taxes, seven provincial taxes, and two federal taxes plus three additional taxes of a federal and provincial nature including taxes paid to other provinces. In other words, the industry was subject to at least 16 different taxes.

The rationale for this seemingly illogical multiplicity of taxes in Canada was summarized in a very cogent manner by Mr. Robert D. Brown, F.C.A., senior partner of Price Waterhouse and Company, Toronto, in addressing the Annual Conference of the Eastern Regional Association of Sales Tax Administrators in Toronto on August 17, 1971. Mr. Brown stated:

"What all this comes down to is that governments, as a practical matter are likely to be forced, despite the fulminations of university professors, to reply upon a whole host of taxes in order to keep their tax profile as low as possible. If people paid all of their taxes in the form of income tax, they would have an opportunity of finding out not only how much they are paying in taxes, but how this burden was divided amongst members of the community. The impact of this information would be shattering and any government so foolish as to attempt to institute such a plan would, I suspect, be instantly voted out of office or more likely yet, lynched.

"It is only by imposing a large number of taxes and thereby extracting money from the public by a variety of means on a variety of occasions and through a variety of measures that the impact of tax payments on the individual can be lessened and his sensitivity to these extractions maintained at the lowest possible level."

It is not difficult to understand the viewpoint of the government as to why a variety of taxes are more attractive than a single tax raising the same revenue at greatly increased rates but lower total administrative costs. However, from the viewpoint of the individual and the businessman, Canada's present tax structure must surely be unacceptable.

Some indication of the significance of sales taxes as major revenue producers is gained by noting that during the 1972-73 fiscal year, the federal treasury anticipates revenues in excess of \$3 billion from these sources. This represents 19 per cent of budgetary revenue, compared with 46 per cent from personal income tax and 14 per cent from corporation income tax.

The federal sales tax rate is a uniform 12 per cent for all goods, with the exception of building materials which are subject to an 11 per cent rate.

While the trend of future taxation in Canada is by no means clear, the weight of opinion and evidence indicates that provinces will continue to make great use of sales taxes as opposed to increasing income tax rates in order to finance costlier and expanded programmes.



One such proponent of this view is Professor Richard M. Bird of the University of Toronto's institute for the quantitative analysis of social and economic policy. In an article published in the September-October issue, 1970, of the *Canadian Tax Journal*, Professor Bird observed that: 'Future tax changes made will take directions not clearly foreseen in the Carter report, in particular towards heavier reliance on indirect taxation and more use of benefit cases.'

Professor Bird continues on in the article to illustrate not only the changing composition of Canadian taxes but the shift in recent years to the provinces taking a larger share of the Gross National Product in taxes vis-a-vis the federal take.

He also noted that the changed composition of government revenues were matched by a changed composition of government expenditures. Health, education, and welfare expenditures have more than doubled in relative importance in the last 20 years, to the point where approximately half of total government spending in Canada is now accounted for by these fields. The most rapidly increasing of these expenditures is that on public health.

In the September issue of *Executive* magazine, an article entitled, *A Government-run Nation*, by the special projects editor, John Kettle, asks the question: 'How long would you guess before the public sector is the major part of the economy?'

Using data extrapolated from Statistics Canada reports, Kettle concludes this will occur three years from now in 1976. Moreover by 1984 according to his analysis, the private sector of the economy will for the first time decline absolutely; that is, its contribution to the Gross National Product will actually begin to shrink instead of growing ever more weakly.

Among other interesting observations and facts in his article are these:

- Since 1961, government spending has grown at an average rate of 12.3 per cent a year, or 8.6 per cent in constant dollars. In the same period, the expenditure of the rest of the economy averaged 7.1 per cent a year or only 3.6 per cent in constant dollars.
- The most rapidly increasing expenditures were those of the provincial governments which increased at an average rate of 15.5 per cent a year, or 11.7 per cent in constant dollars, not counting hospital expenditures or Quebec's pension plan.
- If this trend continues, by 1990 *the provinces alone will require one-half the Gross National Product in taxes.*

Kettle produced a similar study in February, 1970, and in December, 1971. The only difference between his latest study and his two previous ones is that the private sector is now losing out even more quickly than his earlier predictions indicated.

If this paper were limited to three criticisms of sales taxes in Canada, they would be:

- (a) Canadian producers and manufacturers are placed at an economic disadvantage to their competitors as a result of these;
- (b) The system involves pyramiding, excessive administrative complexity and cost; and
- (c) There appears to be a better alternative.

In a recent paper delivered in Toronto to the 1973 Annual Conference of the National Tax Association of the Tax Institute of America, Mr. R. D. Brown stated that:

"The effective rate of the Canadian federal sales tax as a percentage of tax excluded retail selling prices is likely close to 9 per cent, while the weighted average rate of provincial sales taxes is in the neighbourhood of 6½ per cent. This means that Canada already has a direct average sales tax burden on taxed retail sales in excess of 15 per cent."

The pyramiding effect of sales taxes in Canada did not escape Mr. Brown's notice, nor did the hidden burden of sales tax in business costs which tend to make Canadian producers less competitive than many other countries, notably the European common market which uses a more effective taxation system. This point was driven home in a GATT publication, *Basic Documentation for Tariff Study* (Geneva, July 1970) which showed that Canada headed the list of all GATT industrial countries in terms of the percentage of its total imports in the manufactured goods category. The average figures for GATT countries was 22 per cent; for Canada it was 77 per cent.

The Canadian sales tax structure is administratively undesirable because of the exemptions and exclusions which it provides, which in turn give rise to problems of definitions and argument regarding such questions as who is the end consumer, and where does the production process end. These frequently result in industry and government spending more money arguing the correctness of a particular assessment than might be involved in payment of the assessment itself.

Exemptions invite those subject to tax to argue wherever there appears to be the remotest possibility of coming within the terms of such an exemption, that the relief ought to be applicable to them.

An important reservation regarding taxation on producers' goods was expressed by the Ontario Committee on Taxation which was of the view that taxation of producers' goods at any level constituted a violation of the principle of neutrality in that the resulting change in the prices would not be uniform, depending on the number of times the product changed hands. The committee report refers to the fact that similar problems have forced the federal government to make literally thousands of special rulings directed towards restoring a taxpayer's basic selling price to a national manufacturer's price, in an effort to maintain some degree of 'fairness' among those taxpayers required to account for federal sales taxes.

Sales taxes have a particular insidiousness about them, especially in Canada in that the seemingly low rates applicable obscure the vast revenue which they generate. Additionally, they result in hidden final costs which accumulate depending upon the number of different hands through which the product is passed before it reaches the consumer. While transfer payments in recent years especially have done much to recognize the vulnerability and needs of the poor and the marginal income earners, these payments do nothing to assist Canada in maintaining competitiveness against foreign producers and suppliers of goods.

Because of Canada's political structure, there are a number of substantial impediments to a more rational system of taxation. Since the federal government acts as the collector of a large share of provincial revenues, it is not anxious to continue this role when provincial taxes so collected are increased, since in the public mind, it would become mistakenly identified as the level of government responsible for the increase. On the other hand, it can readily be seen why the provinces are reluctant to change what is in many ways a most attractive situation; namely, having someone else bearing the unpopularity of acting as your bill collector.

Having regard to the size of Canada, and the absence of adequate transportation facilities in all but the largest urban centres, it is almost incomprehensible to see motor vehicle fuels taxes as luxury goods. It would seem to make far greater sense to levy increased licence plate fees or to use toll highways for revenue production than to burden fuel with such a heavy tax when private automobile transportation is often the only convenient and realistic mode of transportation among various centres in Canada.

Indeed, if Canada is to have differential rates of sales taxes, there would seem to be a strong case both in terms of equity and in terms of achieving a more rational distribution of our population for levying progressively higher

rates of taxes on motor fuels according to the size of the locality in which they are sold. In such a scheme, the larger urban centres would bear higher costs than smaller ones, because they provide the opportunity to use public transportation systems which are publicly financed, whereas this type of transportation is not available either at all or to a lesser degree of convenience in our smaller urban centres.

Because of the stated as well as the implied criticism of sales and excise taxes in Canada, it is logical for one to ask what is a better alternative.

It may be that industry as well as government in Canada ought to be examining the attractiveness of a value added tax.

There is a tax which should be mentioned in this paper, if only because it is not normally thought of as such. It is exceedingly prevalent at this time in our economy and it has built into it all of the worst features of any tax. This tax is called inflation.

It is a tax which is lacking in official sanction, which cannot be precisely calculated, and which bears hardest on those least able to resist it. It distorts markets, prejudices long-term financial commitments, and creates international uncertainties of serious proportions.

It is a tax which penalizes holders of cash who are subject to the tax in proportion to the amount held and the length of time liquid assets are held.

It is capricious and discriminatory in that some individuals and companies will find themselves in favourable positions to take advantage of rapid price rises for their services or products and will be able to increase their own real income positions at the expense of those marketing services and products characterized by more slowly rising prices.

Indeed, it was not so many years ago that the head of a large Canadian bank accused the then Minister of Finance of engaging in a deliberately calculated programme of inflation which would enable the government to retire its debt obligations through inflated dollars at the expense of those individuals who in good faith had purchased government bonds in anticipation of more orderly price restraints.

There seems to be little doubt that a certain amount of inflation is a government fiscal tool, nevertheless, questions must arise as to its propriety when it reaches a point where people with fixed investments such as government bonds can only liquidate their holdings at depressed prices.

In its simplest form inflation is a tax upon wealth which discourages saving and encourages spending at a time when this might well be contrary to national interest. Moreover, it results in increasing public costs in health, education, and welfare when these are already rising at what many consider to be an undesirable rate.

#### (b) *Value Added Taxes*

In its simplest form, a value added tax is a sales tax passed through the chain of processing, production, and consumption, with a rebate of tax provided at each point before the point of final sale occurs.

This is the required tax for all members of the European economic community, although rates are not uniform throughout all countries.

For those who are interested in reading two authoritative, concise, and inimitable articles on value added taxation, the article by Messrs. Norr and Hornhammer entitled, *The Value Added Tax in Sweden*, published in the



March 1970 edition of the *Columbia Law Review* is recommended and also the second and more recent paper, *A Federal Value Added Tax — A Canadian View Point*, delivered by Mr. R. D. Brown to which earlier reference has been made.

There has not been a great deal of public discussion in Canada on the desirability of adopting this type of tax, however, it is known that the federal Department of Finance and the federal Department of National Revenue are examining this tax and according to a report in the *Financial Times* edition of October 3, 1972, at least one province, Ontario, has been seriously examining it. An examination of the Swedish experience with value added tax might be useful for a number of reasons.

Economically, Sweden and Canada make better comparisons than Canada and the United States; the size of our populations is more closely related; our economic mix is more similar in that Sweden still depends significantly on primary products; our wage levels are similar; and the proportion of Gross National Product which is exported is approximately the same.

Because the value added tax appears to improve a country's competitiveness in export markets, it should for this reason alone be examined carefully by the Canadian mining industry, having regard to the fact that some 60 per cent of our total mineral production is exported. Under GATT rules, indirect taxes are considered as being carried forward and reflect in final prices, whereas direct taxes are not. For this reason, an exporting country is permitted to rebate the indirect tax portion ordinarily levied on goods when these are exported so that these may enter external markets free of domestic tax components. Conversely, it is permitted to assess an equalization tax on imported goods so that they will not escape the burden of indirect taxes borne by similar good produced in the domestic market and otherwise enjoy what is considered an unfair advantage.

These adjustments at the border take place only with respect to indirect taxes and not, for example, to direct taxes, such as corporation income tax which may be applied on the profits of the producers of such goods.

In the paper by Brown, the advantages of the value added tax are dealt with and the following observation appears of particular interest:

"One of the chief advantages of a VAT is that it can provide relief from the undesirable and distorting taxation of cost inputs. It further enables a much more effective exemption to be given to certain goods — such as food — because it allows for the exemption of cost inputs as well as the commodity itself. While a retail sales tax can provide specific exemption for certain major producers' goods it cannot possibly grant the complete exemption from double taxation that could be achieved with a VAT. The exemption of such goods and services is desirable both on the grounds of economic neutrality and in order to ensure that domestically produced goods are competitive at home and abroad with goods produced under the tax systems of other countries. Goods produced in a country with retail sales tax inevitably bear an element of hidden tax and will be at a relative disadvantage with goods produced in a country with a VAT."

Earlier in his paper, and as has already been cited in this presentation, Brown points out that Canada has a direct average sales tax burden on taxed retail sales of in excess of 15 per cent. However, if it is accepted, and this appears to be the general view amongst economists, that part of a sales tax always becomes hidden in manufacturers' costs, then this becomes an extremely important point in assessing which type of taxation system best facilitates our capabilities in international trade.

The question of who is the 'final consumer' is, of course, an extremely important one in sales tax administration for both government and industry. While Sweden made a smooth and apparently painless transition from a general sales tax to a value added tax, the question of final consumer still posed certain problems. For example, under their sales tax, steel sold for industrial production was tax free, since the buyer was not considered a consumer. On the other hand, steel sold for housing was considered taxable since the builder was regarded as the consumer.



However, when the value added tax was adopted, the arguments and questions which such fine distinctions always involve under the application of a sales tax which provides for exemptions, was done away with by making every transaction taxable. Thus, instead of collecting tax only on sales to 'final consumers' the vendor under the value added tax system collects tax on every sale regardless of the status of the producer, the purpose of the purchase, or the use to which the buyer intends to put the item.

According to Norr and Hornhammer, the burden of claiming relief is shifted to the buyer, the only person in possession of the evidence; if the buyer is a business firm entitled to relief, the firm claims relief by way of the value added tax's tax credit mechanisms.

With respect to the advantages of a value added tax on Sweden's international trade, the observations of Norr and Hornhammer are again of interest, who state that:

"The problem of hidden sales tax costs is serious in a country like Sweden in which foreign trade and international competition are especially significant — Swedish exports (about 20 per cent of Gross National Product) account for about 40 per cent of Swedish industrial production. Elimination of sales tax burdens on exports was seen not as a stimulant to exports but as a removal of obstacles."

It is interesting to note that in the Swedish value added tax system governmental transactions are taxable on the same basis as they would be if they took place within the private sector, so as not to place the government in a preferred position. Aside from considerations of international trade, and administrative simplicity, Sweden adopted value added tax because of the general experience of other countries, that once a general sales tax exceeds the 10 per cent rate, evasion tends to become a significant consideration.

Sweden has a single rate value added tax unlike most other countries, and in addition, it continues to impose miscellaneous excise taxes on such items as tobacco, liquor, candy, jewelry and furs, soft drinks, and the like.

Another view on the merits of a value added tax versus a sales tax is contained in an article in the May-June 1972 edition of *Tax Policy* published by the Tax Institute of America. The author is B. Kenneth Sanden, a member of the firm of Price Waterhouse and Company and President of the Tax Institute of America. He had this to say:

"Economists have generally concluded that the incidence of a value added tax is essentially equivalent to a national sales tax. Why then has the VAT spread so rapidly as against a sales tax which would appear to be easier to administer? The main reason for the initial thrust was in the desire of the Common Market to minimize the tax burdens in foreign trade. The tax could be completely eliminated on exports with the complications and inexactitudes of a sales tax. These complications involve the use of registration and exemption procedures to avoid the tax being imposed on items ultimately entering into non-taxable exports or accounting determinations of the portion of taxes paid applicable to such items. Neither method proved satisfactory under prior turnover tax systems.

"The installment collection of a VAT, throughout the production and marketing structure, produces revenues to the government at the earliest opportunity. The tax is relatively self-policing at such stages and, accordingly, the possibility of fraud is greatly minimized and, even where it occurs, the effect should be reduced as contrasted with a tax imposed at a single level.

"The Europeans apparently also believed that the retail trade should not bear the sole burden of the tax. This relates not only to the collection and audit procedures but also to the possible pressures on price increases occasioned by the tax."

Another article on the case for value added tax, this one by Professor Daniel T. Smith, of the Harvard Business School, noted the problems which would develop between the federal government and the states if a national tax, in the form of a value added tax were adopted. It would seem that much in his observations would apply to Canada. He said:

"Our federal system adds a special reason to have the same structure for the national tax as that used in our states. Clearly, our states are not going to give up their retail sales taxes as a revenue factor; more likely, they would oppose a national sales tax as a encroachment on their tax preserves.

"But if we are to have a national sales tax, we should at least use it to work in the direction of uniformity in the sales tax field. This could best be achieved by letting the states 'ride' the federal tax — that is, add their rate to the federal rate and have the federal government pay over to a state the amounts collected on its behalf.

"The states cannot, however, without a great deal of confusion, ride a VA tax and end up with the same revenue allocations among them as exist today.

"Retail sales taxes in a federal system essentially allocate their revenues to the state of final sale, i.e. the state of destination of the goods. In the absence of border adjustments, a value added tax allocates its revenues in part to the state of origin, in part to any states having intermediate wholesalers and in part to the state of final sale. Indeed, since the Europeans desire for the period ahead to allocate revenues within the Common Market to the country of destination, they must retain their border adjustments among themselves."

For those who may not be entirely clear as to how the application of a value added tax differs from an ordinary sales tax, the following example might be helpful. Let us suppose under such a system, a mining company sells minerals worth \$900,000 (before tax) during a given taxable period. Assuming the nominal value added tax rate to be 10 per cent, the effective rate would be 11.11 per cent since the tax base is the value of the article plus the tax itself, the mining company must add tax of 1/9, or \$100,000 to the amount which it collects from its customers. Tentatively this \$100,000 is the amount the mining company owes the government.

Let us suppose further, however that during the same period, the company has purchased mills and other capital equipment for \$200,000 (before tax) as well as additional supplies and materials costing a further \$400,000, also before tax. Taxable purchases would then total \$600,000 before tax; at the 11.11 per cent rate, the company pays its suppliers tax of \$66,666 on these purchases. In calculating the value added tax which it must pay to the government for the period in question, the company may credit, against the tax of \$100,000 due on its sales, the tax of \$66,666 which it paid on its purchases. It owes the government only the difference, namely \$33,334.

Under a value added tax system, every firm selling taxable goods or performing taxable services is required to register as a taxpayer. Only a registered firm has the right to credit against the tax due on its sales, the tax paid on its purchases. Consumers have no such right.

Value added tax is much too broad a subject to be treated adequately in this presentation. It has been mentioned more for purposes of consideration and discussion than for any other reason. Nor should the opinion be left that every economist of standing endorses such a system. One of the notable dissenting views is held by Dr. John F. Due, a distinguished American economist on the staff of the University of Illinois. In a paper presented to the 6th Annual Conference of the Eastern Regional Association of Sales Tax Administrators held in Toronto on August 16, 1971, Professor Due had this to say on the value added tax alternative:

"The value added tax has attracted so much attention in recent years that some reference is desirable. To the states or provinces the tax offers no advantage at all over the retail sales tax and is considerably more complex. The principal advantage of the value added tax in Europe and Latin America is the spreading of

the direct impact of the tax over manufacturing and distribution levels rather than collecting it all from the retailer — a difficult task in Italy or Brazil, for example. But this problem does not face us in Canada or the United States; it is feasible to collect the entire amount from the retailer, and far simpler to do so. Furthermore, the value added tax works well only if it is universal in coverage, because of the tax deduction feature. But interstate complications would play havoc with the tax credit feature; a manufacturer in Michigan sells goods to a processor in Ohio who in turn sells the finished product back into Michigan. The system would be seriously complicated by these aspects, with danger of discrimination in favour of or against interstate transactions. On the whole, the states would gain nothing by changing from a retail tax to a value added tax, but would create serious complications. Use of a value added tax in lieu of a business occupation tax as a general business levy, at a very low rate, is somewhat more logical — but by usual standards is inferior to corporate income tax.”

Notwithstanding the views of Professor Due, there are strong reasons why the value added tax system warrants serious study as a possible alternative to the present hodge-podge of sales taxes in Canada. A very effective and more than offsetting argument for this was made in Mr. Brown’s paper delivered earlier this month to the National Tax Association of the Tax Institute of America at its 1973 Annual Conference held in Toronto.

The concluding paragraphs in his paper are a clear and seemingly valid assessment of the situation. These paragraphs read as follows:

“To my mind, the most important single advantage which a VAT would have in a Canadian context is that it would provide a much more efficient and fair system of raising revenues from sales taxes than the existing double level of provincial and federal levies, while at the same time removing important elements of double taxation and tax drag from Canadian manufacturers and producers.

“The present system of federal and provincial sales taxes in Canada is economically unneutral, discriminates against domestic producers in favour of foreign producers both in domestic markets and in export markets, and is erratic and capricious in terms of its exemptions and the incidence of its burdens.

“I believe that the present Canadian tax system would be significantly improved if the present federal and provincial sales taxes were replaced by a single coordinated value added tax. I also suggest that such a value added tax would provide important advantages not available through a single retail sales tax system producing equivalent revenue.

“However, I am not at all hopeful that a value added tax will be adopted — or even seriously considered — by any level of government in Canada in the near future. A single value added tax replacing existing federal and provincial sales taxes would have a relatively high rate and high consumer visibility that would make it unpopular with voters and politicians alike.

“Further, a value added tax in Canada would make most sense as a joint federal-provincial project to replace all existing sales taxes, and such a joint operation would involve a level of provincial-federal cooperation not frequently encountered in recent years.”

Perhaps the basic problems of a society stem from its philosophical or social orientation rather than from its administrative structure. There is, for instance, the notion in Canada that whether Canadians collectively feel the need for, or wish it so, governments are going to continue to take an increasing share of the Gross National Product in various forms of taxation, and that for reasons of political expediency, a multiplicity of low visibility taxes will be chosen as the most effective means of accomplishing this end.



In its ultimate form the power to tax is the power to confiscate private wealth, and, indeed, the mining industry in Manitoba has recently been made the subject of a proposal which would have their mineral leases repatriated to the Crown through a type of confiscatory taxation that would amount to appropriation without compensation.

In western society much is made of the responsibility of government to use the taxation system to redistribute wealth. Because it has been cloaked in high sounding platitudes, this proposition has not been seriously challenged in Canada. It is astounding that this should be so since one would think that in a society where private property rights have been so long and strongly embodied in our law, that governments with no inherent wealth of their own would not dare suggest they have a duty to redistribute it. Such a concept must of necessity mean that it is the wealth of others that governments propose to give away. In lay terms, this is known as the robin hood theory of government.

Governments at every level have duties to ensure basic human needs are met. The poor and those others who for various legitimate reasons are unable to provide their own basic adequate needs must be cared for through the state's resources. Welfare is a proper and required function of government. Unfortunately, this concept has been twisted to the point where governments are now permitted to argue that welfare is equivalent to the redistribution of wealth.

It is not.

To the knowledge of those associated with this paper, no government in Canada has ever been elected to office on the basis of a platform that it was seeking a mandate to redistribute the wealth of the country. This being the case, those who are concerned with the increasing entrenchment of this theory should be prepared to take strong issue with governments who claim to have such a mandate.

Administratively and, indeed, morally, the system of government should be such that any citizen knows the total effective accrued rate of taxation to which he is being subjected. If governments regard this as undesirable, it must only be because they believe that the information so revealed would be unacceptable. If this is the case, then it would seem to be a *prima facie* admission that government policy or expenditures, and quite likely both, lack the public support which they must have in a free society to be considered as proper. It is not for government to impose its wishes upon the electorate, and so long as the Canadian tax system is so divided that it becomes impossible for individuals, or companies to know the actual costs of government, then one must question the morality upon which the system is based.

A philosophical change is required in Canada's taxation system to return to the concept that governments have a duty to provide certain facilities and services, but not without the express consent of the electorate, a duty to restructure the form of society by employing a variety of tactics to appropriate an inordinate amount of privately earned wealth to finance programmes, many of which are neither known, needed, nor desired by the vast body of taxpayers.

#### (c) *Sales Taxes in Manitoba*

It is, of course, difficult to review in its entirety the *Manitoba Sales Tax Act* and keep such comments relatively short and meaningful. We have, therefore, concentrated on those areas which we feel are of most interest to mining companies. The Manitoba sales tax rate is 5 per cent which along with the provinces of Saskatchewan and British Columbia is the lowest sales tax rate in Canada.

It would appear to the writer that the most important area of sales tax consideration for mining operations is the treatment of 'direct agents' and similar related items. As of May 1st, 1972, the exemption for machinery, equipment, and apparatus used directly in the process of manufacture or production directly in rendering a service or commonly known as 'production machinery,' was discontinued. At the same time, however, the meaning of 'direct



agent' was extended thereby providing exemption from tax for certain materials and articles used directly in a production process. In general terms, items excluded from the 'direct agent' definition, and therefore taxable, are items that (1) are production equipment or replacement component parts, or (2) do not come into physical contact with the product being manufactured or in contact with goods to which a service is being rendered.

The precise definition of a 'direct agent' reads as follows:

"A 'direct agent' is declared to be tangible personal property which in the opinion of the Minister is not machinery, equipment, apparatus, or an inherent part thereof, and

- (a) which in the opinion of the Minister is consumed to the point of destruction or dissipation or uselessness for any other purpose in the transformation or manufacture of a product
  - (i) when in direct contact during the manufacturing process with materials being processed, fabricated or manufactured into product for sale, or
  - (ii) when in direct contact with the tangible personal property to which a service is being rendered; or
- (b) which in the opinion of the Minister is consumed directly and exclusively in the manufacture of printed matter or photographs for sale, or in the rendering of a printing or photographic service, and which in his opinion is type, metal plates and materials, cylinders, film, artwork, designs, photographs, rubber material, plastic and paper materials when impressed with or carrying or displaying an image for reproduction by printing or photographing, and chemicals used for the developing of an image to be reproduced."

The following is a rather detailed list of items that providing they otherwise meet the foregoing definition would be exempt when used in the mining industry:

Drill bits for cutting holes to insert explosives but not including drill rods.  
Explosives and explosive accessories for breaking ore.  
Bucket lips and teeth for mine loaders which handle ore.  
Crusher jaws, plates, liners, and mantles.  
Jeffry crusher hammers.  
Grizzly decks.  
Grinding rods, balls, and similar grinding media.  
Screens for use in separation of ore.  
Reagents used in milling.  
Flocculent.  
Filter cloths.  
Filter paper used in refining.  
Flotation rotor and stator.  
Launder liners.  
Carbon electrodes, casings, and rings.  
Lancing pipe.  
Furnace pokers.  
Tuyere punchers.  
Dross rakes.  
Molds.  
Mold dressing.  
Ladle lips.  
Cottrell rods.

Refractory brick and patch materials.  
Roaster rabbles.  
Cathode boxes.  
Anode bags.  
Bearing centres and side strips for anodes and cathodes.  
Refinery bus bars of electrolytic tanks.  
Rock bolts, wire mesh, and washers for use in stopes.  
Sand and cement for stope backfill.

PROVINCIAL TAX COMPARISON — MINING TAXES

	BRITISH COLUMBIA	SASK- ATCHEWAN	MANITOBA	ONTARIO	QUEBEC	NEW BRUNSWICK	NOVA SCOTIA	NEW- FOUNDLAND
SALES TAX RATE	5%	5%	5%	7%	8%	8%	7%	7%
SALES TAX — PRODUCTION MACHINERY	TAXABLE	TAXABLE	TAXABLE	TAXABLE	EXEMPT(A)	EXEMPT	EXEMPT	EXEMPT
SALES TAX — DIRECT AGENTS (B)	EXEMPT	TAXABLE	EXEMPT	EXEMPT	PARTIALLY EXEMPT (D)	EXEMPT	EXEMPT	EXEMPT BY AGREEMENT
SALES TAX — REAGENTS AND CATALYSTS (B)	EXEMPT	EXEMPT	EXEMPT	EXEMPT	PARTIALLY EXEMPT (D)	EXEMPT	EXEMPT	EXEMPT BY AGREEMENT
SALES TAX — CONSUMABLES (C)	TAXABLE	TAXABLE	MAY BE EXEMPT	MAY BE EXEMPT	PARTIALLY EXEMPT (D)	TAXABLE	TAXABLE	EXEMPT BY AGREEMENT
ELECTRICITY OR GAS USED IN MANUFACTURING	TAXABLE— 5%	EXEMPT	TAXABLE 5%	EXEMPT	90% EXEMPT 10% TAXABLE AT 8%	EXEMPT	EXEMPT	EXEMPT BY AGREEMENT

(A) From April 1972 to April 1975.

(B) & (C) Interpretations re direct agents, reagents and catalysts, and consumables vary considerably between provinces for tax application to specific materials. Reference should be made to the interpretation bulletins of the province in question.

(D) Quebec — Producing company — subject to tax on own consumption in ratio of in province sales — minimum 20%.  
total sales  
— Non-producing company — subject to tax on own consumption at 20%.

PROVINCIAL TAX COMPARISON — MINING TAXES  
(NO MINING TAXES IN ALBERTA OR PRINCE EDWARD ISLAND)

- ( 1) SASKATCHEWAN — For mines in operation prior to December, 1964, the rate is 12½% of taxable income.
- ( 2) MANITOBA — If mining income in excess of \$50,000, tax rate of 15% applies on full taxable income.
- ( 3) NOVA SCOTIA — A volumetric basis is utilized: gypsum — 6 cents per ton shipped; coal — 12½ cents per long ton on sales; salt — 10 cents per short ton shipped; barite — 15 cents per long ton shipped.
- ( 4) NEWFOUNDLAND — Iron mines taxed at 20% of net income but not in excess of 10 cents per ton of ore mined up to 1,500,000 tons and 8 cents per ton on balance.
- ( 5) ONTARIO — Additional processing allowance on the first \$1,000,000 in excess of the \$50,000 deductible — other amounts are to be calculated exclusive of the deductible.
- ( 6) QUEBEC — The rate of 9% is applicable on the first \$1,000,000 in excess of the \$50,000 deductible — other amounts are to be calculated exclusive of the deductible.
- ( 7) ONTARIO — If income is less than \$50,000, total amount exempt; however if income in excess of \$50,000, the rate of 15% applies on full taxable income.
- ( 8) SASKATCHEWAN — Preproduction expense write-off is covered by Section 99-2(B) as follows: "(B) An allowance for annual write-off not less than five nor more than fifteen per cent per year of the cost of actual work done in preproduction and development, exclusive of any interest charge thereon, until the full value or cost thereof has been allowed as an expense." Development expenses after mining operations have commenced are written off in the year incurred.
- ( 9) ONTARIO — See Section 3(2)(N) of *Mining Tax Act*.
  1. First mine must have come into production after January 1st, 1965.
  2. Ore must be beneficiated to at least smelter stage in Canada.
  3. Write-off is 10% per annum commencing with 1969 taxation year. Percentage is reduced proportionately where all ore is not treated as in (2).
  4. 10% per annum is assumed to have been written off for each taxation year of production prior to that in which the ore is smelted to at least the smelter stage in Canada or prior to the taxation year ending in the year 1969 whichever is the later.
- (10) QUEBEC — The allowances for development expenses incurred during a fiscal year are totalling deductible during the said year or amortized during subsequent years, provided at least 15% of such development expenses are so amortized in each of the subsequent years (Section 9, S.Q. 1965, Chapter 35).
- (11) NEW BRUNSWICK — Preproduction expenses are written off in the same manner as depreciable assets up to a maximum of 15% per annum and after production of the mine commences.



PROVINCIAL TAX COMPARISON – MINING TAXES  
(NO MINING TAXES IN ALBERTA OR PRINCE EDWARD ISLAND)

	BRITISH COLUMBIA	SASK-ATCHEWAN	MANITOBA	ONTARIO	QUEBEC	NEW BRUNSWICK	NOVA SCOTIA	NEW-FOUNDLAND
RATES ON TAXABLE INCOME OF:								
\$ 0 – \$ 10,000	NIL	NIL (1)	6% (2)	NIL (7)	NIL	8%	RATES	5%
ON NEXT 15,000	15%	NIL	6% (2)	NIL (7)	NIL	8%		5%
ON NEXT 25,000	15%	5%	6% (2)	NIL (7)	NIL	8%	PER	5%
ON NEXT 50,000	15%	5%	15%	15%	9%	8%	ORDER –	5%
ON NEXT 100,000	15%	7%	15%	15%	9%	8%		5%
ON NEXT 300,000	15%	7%	15%	15%	9%	8%	IN –	5%
ON NEXT 250,000	15%	9%	15%	15%	9%	8%		5%
ON NEXT 200,000	15%	9%	15%	15%	9%	1%		5%
ON NEXT 50,000	15%	9%	15%	15%	9%	11%	COUNCIL	5%
ON NEXT 1,000,000	15%	9%	15%	15%	11%	11%		5%
ON NEXT 1,000,000	15%	9%	15%	15%	13%	11%		5%
ON NEXT 1,000,000	15%	9%	15%	15%	13%	12%		5%
ON NEXT 1,000,000	15%	9%	15%	15%	15%	12%		5%
ON NEXT 5,000,000	15%	9%	15%	15%	15%	12%		5%
IN EXCESS OF \$ 10,000,000	15%	9%	15%	15%	15%	12%		5%
NEW MINES (1ST THREE YEARS)	FULL RATES	EXEMPT	FULL RATES	FULL RATES	FULL RATES	FULL RATES	NOT APPLICABLE	FULL RATES
PROCESSING ALLOWANCE	8% OF U.C.C. MAX/MIN 65%/15% OF NET INCOME	8% OF C.C. MAX/MIN 65%/20% OF NET INCOME	8% OF C.C. MAX/MIN 65%/15% OF NET INCOME	8% OF C.C. MAX/MIN 65%/15% OF NET INCOME (5)	8% OF C.C. MAX/MIN 65%/15% OF NET INCOME	8% OF C.C. MAX/MIN 65%/15% OF NET INCOME	NOT APPLICABLE	8% OF C.C. MAX 65% OF NET INCOME
PREPRODUCTION ALLOWANCE	ALLOWED	ALLOWED (8)	CAPITAL-IZED & DEPREC-IATED AT 10%	UNDER CERTAIN CIRCUM- STANCES (9)	ALLOWED (10)	ALLOWED (11)	NOT APPLICABLE	ALLOWED

Spray paint for use in outlining the orebody in stopes.  
Timber, burlap, and polyethylene for use within the stopes and remaining permanently therein.  
Rock bolts, wire mesh, rock bolt straps, and wire rope for rock bolting, for use in stopes.  
Blast hole liners.  
Lifter bars for use in a rod mill.  
Launder tips for use with matte.  
Concrete spacers used on electrolytic tanks.  
Stainless steel mother sheets which are fast-wearing.

Concerning the foregoing list, it becomes evident that we are concerned with fast-wearing items and as a general 'rule of thumb,' we have accepted items that are expected to become useless after three months in a production process providing they meet the other criteria of the definition.

Some of the items which are taxable when considering the above definition would be metal chute or mill hole liners, used for ore transportation, permanently installed in backfill or where the expected useful life is related to the life expectancy of the stope. Titanium mother sheets are taxable where the expected useful life extends beyond the three-month guideline for consumables as are anode lugs as the type presently in use retain a useful life in excess of three months. It must be remembered that the service of repair, or reconstituting, consumable items are subject to the payment of tax as the amended definition of 'direct agent' includes only tangible personal property and not services.

The foregoing discussion gives an idea of how the 'direct agent' exemption works and a list of some of the items which might be covered by it. However, it is not meant to be a complete list. If by any chance, you desire a ruling on any particular commodity used in a specific process, I would ask you to write to the Revenue Tax Branch, 115 Norquay Building, Winnipeg, describing the item in question and how it is utilized in your particular process. We would be pleased to advise you as to the taxability of the item in question and if we feel it is of general interest to other mining corporations, we will in subsequent interpretation memos include such items. If by chance you are not on the mailing list of the Revenue Tax Branch, I would ask you to write to them at the above address and ask that your company or you specifically be included for all interpretation memos relating to mine companies and their operations.

As was mentioned at the introduction of this report, we have limited our discussion to the elimination of the production machinery exception and the extension of the 'direct agent' definition because an extensive review of the *Manitoba Sales Tax Act* as it effects mining companies is beyond the scope of this particular paper.

#### **D. REPORT OF SUBCOMMITTEE ON MINERAL STATISTICS**

The following report of the subcommittee was received by Dr. Fyles:

The Subcommittee considered the following subjects:

- (a) Report on the Task Force on Mineral Valuation.
- (b) Report on Survey of Exploration Expenditures.
- (c) Mineral Policy Objectives for Canada.
- (d) Role of the Subcommittee.

Fourteen people, representing eight provinces, Statistics Canada, and the Department of Energy, Mines and Resources, were present.

The Ontario representative discussed the major reorganization taking place in the Department of Ontario, and its role in the development of a mineral policy for the province. He noted the weaknesses in the statistics currently collected, citing especially data relating to weights and prices and maintaining that the errors result in incorrect values being placed on mineral production. The province would like, he said, to make a one-time adjustment in production value, so correcting published data and helping to create realistic statistics upon which policies can be based.

This serves to illustrate similar expressions of concern on the part of other members, and restates the problem which led to the beginning of this Subcommittee at the 27th Annual Conference in 1970. The purposes of the Subcommittee as seen then, included:

- (a) To develop statistical procedures to show the value of exploration expenditures in Canada,
- (b) To review statistical practices to show the real value of mineral production,
- (c) To improve the procedures so that the statistics are of value to users.

## 1. REPORT OF TASK FORCE ON MINERAL VALUATION

The Task Force did not meet during the year, owing to lack of a clear direction following the 1972 Conference. The Working Group met in Victoria on September 29, 1973, and presented the following statement to the Subcommittee:

### REPORT OF THE WORKING GROUP OF THE TASK FORCE ON MINERAL VALUATION TO THE SUBCOMMITTEE ON MINERAL STATISTICS

(A Subcommittee of Committee No. 3)

Some changes recommended by the Task Force have been implemented by Statistics Canada in the forms for the 1973 Annual Census of Mines.

The report of the Working Group recognizes that there remain many problems to be resolved. It is clear that the testing of non-ferrous base metal mine questionnaires has revealed that not all companies are able to respond adequately because their accounting systems do not generate the needed data.

The group recommends that the work be continued and that development of questionnaires proceed through personal visits of the Working Group members to companies in the field. Companies have different accounting systems which must be accommodated in appropriate instructions accompanying the questionnaires.

Because of the importance of this work, it is recommended that the provinces should allocate increased resources for this programme.

## 2. REPORT ON SURVEY OF EXPLORATION EXPENDITURES

Following the directive from the Subcommittee on Mineral Statistics at the 30th Conference, Statistics Canada prepared summaries of exploration expenditure data for 1971 and 1972, as in the following tables.

The tables show expenditures on exploration in 1971 decreased to \$91.3 million from \$118.8 million in 1970. A further decrease to \$71.2 million is shown for 1972. Decreases in the capital expenditures category reflect the completion of a number of large projects, particularly in British Columbia.

Significant progress was made in determining the extent of employment in mineral exploration and development. Reported statistics indicated employment of at least 14,000 in 1972, but other evidence suggests that the figure is closer to 20,000. There are significant gaps in the statistical assessment of employment in exploration; Statistics Canada wish to continue their effort to fill the gaps, but require a demonstration of whether this is a priority need.

The Department of Energy, Mines and Resources as one user of exploration employment data submitted a note for discussion.

# Exploration, Development and Capital and Repair Expenditures

by

## Mining and Exploration Companies (1)

Canada — By Province

1972 Preliminary Final

(millions of dollars)

	On-property Exploration	On-property Development	Capital construction Structures	Sub-total	Capital Machinery and Equipment	Repair Construction	Repair Machinery and Equipment	Total Capital and Repair	Outside or General Exploration	Land and Mining Rights
Atlantic										
Provinces (2) .....	1.7	10.2	11.2	23.1	71.6	6.3	48.1	149.1	2.7	
Quebec .....	2.5	30.5	121.8	154.8	159.7	5.9	75.4	395.8	8.5	1.8
Ontario .....	5.7	56.1	23.9	85.7	79.6	8.1	123.1	296.5	15.3	1.7
Manitoba .....	(3)	(3)	(3)	31.1	15.6	2.4	13.2	62.3	5.4	
Saskatchewan .....	(3)	(3)	(3)	9.1	11.8	2.1	21.6	44.6	3.7	(4)
Alberta .....	(3)	(3)	(3)	7.2	5.2	0.3	5.5	18.2	1.8	(4)
British Columbia .....	2.1	25.5	44.3	71.9	48.0	6.4	60.0	186.3	27.0	(4)
Yukon and North										
West Territories .....	2.2	15.0	2.9	20.1	2.9	0.9	13.9	37.8	6.7	(4)
Canada .....	16.6	159.4	227.0	403.0	394.4	32.4	360.8	1,190.6	71.1	12.6

(1) These figures do not include outlays in the petroleum and natural gas industry (See Crude Petroleum and Natural Gas Industry, Catalogue No. 26-213, Table 6).

Smelting and refining are included in the manufacturing industry (See Private and Public Investment, Catalogue No. 61-205, Table 3).

(2) The provinces have been grouped because of the confidentiality clause of the *Statistics Act*.

(3) The breakdown of capital construction for the Prairie Provinces is not available because of the need to retain confidentiality but is included in the Canada totals.

(4) The data pertaining to the purchase of land and mining rights for the Western Provinces is combined for confidentiality but is included in the Canada totals.

Prepared in the Construction Division, Statistics Canada, Ottawa.



# Exploration, Development and Capital and Repair Expenditures

by

## Mining and Exploration Companies (1)

### Canada — By Type of Mining

#### 1972 Preliminary Final

(millions of dollars)

	On-property Exploration	On-property Development	Capital Construction Structures	Sub-total	Capital Machinery and Equipment	Repair Construction	Repair Machinery and Repair	Total Capital and Repair	Outside or General Exploration	Land and Mining Rights
<b>Metals: — Total</b> . . . . .	13.7	125.2	202.5	341.4	312.7	26.3	242.4	922.8	17.5	1.2
Gold . . . . .	0.6	8.4	0.3	9.3	1.6	0.4	4.8	16.1	1.0	
Copper-Gold Silver . . . . .	4.0	45.9	71.4	121.3	105.5	7.6	51.6	286.0	7.2	0.5
Silver-Lead-Zinc . . . . .	3.3	12.7	2.9	18.9	7.0	1.7	16.3	43.9	1.3	0.4
Iron Mines . . . . .	(2)	(2)	(2)	127.5	(2)	9.0	82.8	(2)	0.7	
Other Metals (3) . . . . .	(4)	(4)	(4)	64.4	(4)	7.6	86.9	(4)	7.3	0.3
<b>Non-Metals: — Total</b> . . . . .	2.2	33.1	24.3	59.6	81.2	6.0	118.3	265.1	1.0	8.9
Asbestos . . . . .	0.3	19.4	9.7	29.4	27.9	2.6	32.8	92.7	0.2	(5)
Misc. Mining (6) . . . . .	1.9	13.7	14.6	30.2	53.3	3.4	85.5	172.4	0.8	(7)
<b>Metal and Non-Metal Exploration Co's</b> . . . . .	0.7	1.1	0.2	2.0	0.5	0.1	0.1	2.7	52.6	2.5
<b>Total Mining</b> . . . . .	16.6	159.4	227.0	403.0	394.4	32.4	360.8	1,190.6	71.1	12.6

(1) These figures do not include outlays in the petroleum and natural gas industry (See Crude Petroleum and Natural Gas Industry, Catalogue No. 26-213, Table 6). Smelting and refining are included in the manufacturing industry (See Private and Public Investment, Catalogue No. 61-205, Table 3).

(2) Some data for iron mines are not available due to the confidentiality clause of the *Statistics Act*. These figures are included in total metals.

(3) Other metals include nickel-copper mines, silver-cobalt mines, uranium mines, and all other mines.

(4) These data for "other metal mines" are not available due to the confidentiality clause of the *Statistics Act* but are included in total metals.

(5) & (7) The data pertaining to the purchase of land and mining rights in the asbestos and miscellaneous mining sectors are not available because of the confidentiality clause of the *Statistics Act*, but are included in total non-metals.

(6) Miscellaneous mining includes coal mines, gypsum mines, salt mines, potash mines, quarrying, sand and gravel, and other non-metal mines as per S.I.C. Classification 0799.

Prepared in the Construction Division, Statistics Canada, Ottawa.

# Exploration, Development and Capital and Repair Expenditures

by

## Mining and Exploration Companies (1)

Canada — By Province

1971 Final

(millions of dollars)

	On-property Exploration	Capital Construction	Sub-total	Capital Machinery and Equipment	Repair Construction	Repair Machinery and Equipment	Total Capital and Repair	Outside or General Exploration	Land and Mining Rights
Atlantic Provinces (2) . . .	(3)	(3)	80.7	29.0	5.3	49.6	164.6	2.9	
Quebec (4) . . . . .	6.4	25.5	144.6	106.0	7.3	71.8	329.7	11.0	2.7
Ontario . . . . .	8.7	72.5	124.7	92.6	19.0	121.1	357.4	21.3	2.4
Manitoba . . . . .	4.1	17.8	30.2	9.5	4.6	14.8	59.1	9.4	
Saskatchewan . . . . .		4.8	6.6	6.0	3.6	19.0	35.2	5.6	0.1
Alberta . . . . .	(3)	(3)	8.5	8.1	0.5	5.9	23.0	5.1	0.5
British Columbia . . . . .	3.8	32.7	209.5	138.9	3.7	53.4	405.5	27.7	1.2
Yukon and North West Territories . . . . .	1.7	14.3	20.5	5.4	1.2	14.0	41.1	8.3	0.4
Canada . . . . .	27.2	188.3	625.3	395.5	45.2	349.6	1,415.6	91.3	7.3

(1) These figures do not include outlays in the petroleum and natural gas industry (See Crude Petroleum and Natural Gas Industry, Catalogue No. 26-213, Table 6).

Smelting and refining are included in the manufacturing industry (See Private and Public Investment, Catalogue No. 61-205, Table 3).

(2) The provinces have been grouped because of the confidentiality clause of the *Statistics Act*.

(3) The breakdown of capital construction for the Atlantic Provinces and Alberta is not available due to the confidentiality clause of the *Statistics Act*, but is included in the Canada totals.

(4) See footnote (2) on the attached table, Canada — By Type of Mining, 1971 Final.

Prepared in the Construction Division, Statistics Canada, Ottawa.

# Exploration, Development and Capital and Repair Expenditures

by

## Mining and Exploration Companies (1)

### Canada — By Type of Mining

1971 Final

(millions of dollars)

	Capital Construction				Sub-total	Capital Machinery and Equipment	Repair Construction	Repair Machinery and Equipment	Total Capital and Repair	Outside or General Exploration	Land and Mining Rights
	On-property Exploration	On-property Development	Structures								
Metals: — Total	21.7	163.6	352.3	537.6	289.3	37.3	242.4	1,106.6	15.7	0.8	
Gold	0.4	6.8	2.2	9.4	2.4	0.6	3.8	16.2	1.2		
Copper-Gold-Silver	4.9	48.9	159.5	213.3	127.4	5.1	43.4	389.2	3.2	0.5	
Silver-Lead-Zinc	2.8	12.6	3.2	18.6	7.3	1.6	15.4	42.9	2.2	0.1	
Uranium		3.7	0.3	4.0	1.9	1.3	4.2	11.4	1.8		
Iron Mines (2)	(5)	(5)	(5)	(5)	(5)	9.6	86.9	(5)	0.6		
Other Metals (3)	13.6	91.6	187.1	292.3	150.3	19.1	88.7	646.9	6.7	0.2	
Non-Metals: — Total	4.4	22.9	57.3	84.6	105.6	7.9	107.1	305.2	4.3	4.8	
Asbestos	2.7	14.2	19.4	36.3	29.3	1.9	35.2	102.7	0.3	(6)	
Potash and other misc. non-metal											
S.I.C. 0790	0.2	3.6	2.6	6.4	11.8	3.3	20.2	41.7	0.2	(6)	
Misc. mining (4)	1.5	5.1	35.3	41.9	64.5	2.7	51.7	160.8	3.8	(6)	
Metal and Non-Metal Exploration Co's.	1.1	1.8	0.2	3.1	0.6		0.1	3.8	71.3	1.7	
Total Mining	27.2	188.3	409.8	625.3	395.5	45.2	349.6	1,415.6	91.3	7.3	

(1) These figures do not include outlays in the petroleum and natural gas industry (See Crude Petroleum and Natural Gas Industry, Catalogue No. 26-213, Table 6). Smelting and refining are included in the manufacturing industry (See Private and Public Investment, Catalogue No. 61-205, Table 3).

(2) The breakdowns between construction and machinery and equipment for the iron ore industry in Quebec were revised subsequent to the release, in April 1973, of actual figures for 1971 in the publication "Private and Public Investment in Canada, Outlook 1973" (Catalogue No. 61-205).

(3) Includes nickel-copper mines, silver-cobalt mines, and all other metal mines.

(4) Includes coal mines, gypsum mines, salt mines, and quarrying.

(5) Some data for iron mines are not available due to the confidentiality clause of the *Statistics Act*. These figures have been included in the Other Metals group.

(6) The expenditures for land and mining rights in the Non-Metals category have not been broken down because of the confidentiality clause of the *Statistics Act*.

### 3. MINERAL POLICY OBJECTIVES FOR CANADA

The Subcommittee concluded that its activities relate to 'strengthen the knowledge base for national decision-making,' one of the 12 objectives contained in the document released by federal and provincial Ministers last spring.

The Subcommittee observed the scope and character of all the objectives. The need for new and modified data, not only about the mineral system itself, but also for data to assess the impact on Canadians of existing and proposed policy changes are far from adequately met. In a like manner, data to inform the general public on issues of current concern are considered inadequate.

Within this context, the Subcommittee concluded that suppliers of statistics in both industry and government departments require greater guidance and more detailed specification from users of statistics as an integral part of the policy analysis process.

### 4. ROLE OF THE SUBCOMMITTEE

In the context of the above, the Subcommittee concludes that better statistical methods and data are essential. The role of the Subcommittee should be to represent users of statistics rather than to research statistical methods.

In this light it was significant that the Subcommittee was informed of the proposed formation of a Council of Economic Statistics early in 1974. The Council, a federal and provincial body, will meet once a year. Several working committees, including one on mining statistics, will be established to undertake studies.

## RECOMMENDATIONS

1. The technical work of the Subcommittee should be recommended to the proposed Council of Economic Statistics as the basis for its new mining committee.

In this new setting, the work of the Task Force on Mineral Valuation and the Survey of Exploration Expenditures and Employment must be continued.

2. The Subcommittee on Mineral Statistics should continue as part of the Mines Ministers' Conference. Its primary role should be to reflect the needs for statistical data from the users' point of view, to receive reports and recommend projects to the Council of Economic Statistics, and to communicate with industry as suppliers of statistics.

3. The Subcommittee, during 1973-74, should be given special responsibility to promote the transfer of technical work, as outlined above, to the new Council of Economic Statistics. Until this has been accomplished, and in the event that the work cannot be transferred, the Subcommittee should retain the responsibility of ensuring that the projects begun are continued under its guidance. The recommended executive is as follows:

Chairman:	James T. Fyles (British Columbia)
Deputy Chairman:	A. Godbout (Quebec)
Secretary:	Walter Wilson (British Columbia)

The report was discussed briefly by Committee No. 3 and approved for transmission to the Ministers, with one proviso that the collection and publication of exploration expenditures should in future, if practicable, show the expenditures of mining companies based in Canada on exploration in foreign countries.



- (1) The technical work of the Subcommittee be recommended to the proposed federal-provincial Council of Economic Statistics as a basis for its new mining committee. In this new setting, the work of the Task Force on Mineral Valuation and the Survey of Exploration Expenditures and Employment should be continued.
- (2) The Subcommittee on Mineral Statistics should continue as part of the Mines Ministers' Conference. Its primary role should be to reflect the needs for statistical data from the data users' point of view, to receive reports and recommend projects to the Council of Economic Statistics, and to communicate with industry as suppliers of statistics.
- (3) The Subcommittee, during 1973-74, should be given special responsibility to promote the transfer of technical work, as outlined above, to the new Council of Economic Statistics. Until this has been accomplished, and in the event that the work cannot be transferred, the Subcommittee should retain the responsibility of ensuring that the projects begun are continued under its guidance.

#### **E. MINERAL POLICY OBJECTIVES**

A brief discussion of the document *Mineral Policy Objectives for Canada* resulted in the view that the general objectives presented were a useful base for further study.

#### **F. RESOLUTION RELATING TO POLLUTION CONTROL**

It was resolved that:

The Committee requests the Ministers to recommend to their colleagues that provincial sales taxes and real estate taxes be withdrawn on equipment, structures, and buildings used in pollution control wherever they apply.

#### **G. FUTURE OF COMMITTEE NO. 3**

The Committee welcomed the decision of the Ministers to continue the Annual Conference in essentially its present form.

Members of the Committee felt strongly that Committee No. 3 serves a very useful and important role in the proceedings of Annual Conferences and recommends to the Ministers the continuation of the Committee as a standing Committee.

The Committee proposes to establish an Agenda Subcommittee to be composed of the Co-Chairmen of the Committee and such other members as are appointed by the Co-Chairmen. The Agenda Subcommittee is to meet annually at least three months prior to each Annual Conference to develop an agenda consisting of no more than three major topics for discussion. The chosen agenda is to be made available to each Mines Minister and to each major Mining Association as far in advance of the Annual Conference as possible.

The Committee requested the Co-Chairmen to draft, prior to the 1974 Annual Conference, terms of reference for guidance of the Committee in its work. It was agreed that the terms of reference would help clarify the purpose of the Committee and to ensure that its spectrum of interest was sufficiently broad to encompass economic considerations related to the impact of royalties and taxation on the mineral industry.

## RESPONSE BY THE MINISTERS OF MINES

Toronto, November 22, 1973

- Item A. No comment.
- Item B. No comment.
- Item C. No comment.
- Item D. Agreed that the technical work of the Subcommittee should form the basis of the new mining committee of the proposed federal-provincial Council of Economic Statistics.
- Item E. No comment.
- Item F. Did not accept the recommendation concerning withdrawal of provincial sales taxes and real estate taxes relative to pollution control equipment and buildings.
- Item G. Agreed that the Subcommittee should continue as part of the Mines Ministers' Conference.

### REPORT OF COMMITTEE NO. 4

#### MINING AND THE ENVIRONMENT

CO-CHAIRMEN: Mr. J. C. Smith  
Mr. R. L. Bishop

##### A. REVIEW OF PREVIOUS BUSINESS OF COMMITTEE

Representatives of various provinces gave brief outlines of new legislation and locations within government agencies of jurisdictional responsibilities.

It was noted that Alberta had recently passed a *Land Surface Conservation and Reclamation Act* and had gone through first reading of a new *Coal Conservation Act*. Industry commented favourably on the fact that there had been an emphasis on consultation in the preparation of these acts. Draft copies had been submitted to industry for information and comment.

British Columbia is now exerting some controls over land disturbance by authority of Order-in-Council.

While other provinces did not report new legislation, all have enabling legislation dealing with the environment with most still in the process of formulating regulations.

Jurisdiction for environmental legislation is varied; in some cases it is contained within resource departments; in other cases it is a separate agency function. In general, mining departments have authority to enforce environmental control standards regardless of the agency setting them. It was felt that separate environmental agencies should be concerned with setting objectives to maintain the quality of the environment rather than be directly involved in controlling the land use activity.

The Committee was informed that a compilation of environmental legislation and regulations of federal and provincial governments respecting mining operations has been prepared and published by the Mineral Resources Branch of the Department of Energy, Mines and Resources. *Mining and Environmental Law* is the name of the bulletin and it was compiled by Mr. Gary McGee.

## B. MINERAL POLICY OBJECTIVES FOR CANADA

The Committee expressed agreement with the general outline of the objective to minimize the adverse effects of mineral development on the environment. Many delegates emphasized the need for a cooperative approach between both levels of government and industry in the solution of environmental problems.

While no objections were expressed to the strategy elements listed, discussion was limited on these matters as delegates felt more detail was necessary for intelligent evaluation. However, two priority strategy items were identified:

- (a) The need for the establishment of a consultative mechanism between both levels of government and industry in determining policy, and
- (b) The need to establish a procedure for informing the public on the trade-offs involved in balancing resource development with environmental quality. Impact studies could be a useful tool in this procedure.

## C. REPORTS

Dr. E. F. Roots, Senior Planning Advisor, Department of Energy, Mines and Resources, reported to the Committee on the 1972 Stockholm Conference on the Human Environment. The Committee discussed briefly the implications of recommendations emanating from the Conference for the national and international action to which Canada had agreed. Concern was expressed by some delegates in the priority of an international conference such as the one in Stockholm making recommendations on action to be taken within individual nations but no objection was made to their context.

Dr. Roots also brought the Committee up to date on current federal government programmes related to mining and the environment. These are attached as an appendix to this report.

Mr. Alan Bell reported to the Committee on a research pilot operation being carried out in cooperation between the federal and provincial government and Brunswick Mining and Smelting Co. in New Brunswick. The project is to research procedures for treating mine and mill effluent to maintain a high water quality standard in the surrounding environment. The project is being carried out on Brunswick property near Bathurst and is scheduled to be completed by the fall of 1974.

## D. FEDERAL GOVERNMENT PROGRAMMES RELATED TO MINING AND THE ENVIRONMENT MINERAL RESOURCES BRANCH

1. Mining and Environmental Law. A study of the legislation in Canada dealing with the effect of mineral-based industrial activities on the environment. As a first step, a compilation of current Canadian legislation has been published (McGee, G. *Mining and Environmental Law*, Mineral Bulletin MR 138, Ottawa, 1973).
2. Review and analysis of mineral land-use systems in Canada and elsewhere.
  - (a) What systems are used in Canada and elsewhere to determine land use, to resolve land-use conflicts, and to promote multiple and sequential land use?
  - (b) How do the Canadian systems compare with theoretical models of this process?
  - (c) How effective are the Canadian systems according to various criteria? How might the systems be adjusted? How do they support or conflict with other mineral policy objectives?

3. Cataloguing, measurement, and development of analytic relationships between mineral production and the environment. Two phases: Mining and mineral processing.
  - (a) What are physical impacts of mining on the environment in Canada? Are data available to quantify them? What functional relationships can be inferred from Canadian data or presumed from other data?
  - (b) What would be the environmental impact in economic terms of greater production rates?
  - (c) What would be the cost and the effect of alternative environmental management-pollution control systems? What are the cost and effect of existing systems?
4. Social indicators of the type mentioned in mineral policy objectives.
  - (a) What do we know about the social effects of mineral production on a cross-sectional and longitudinal basis? How do the effects depend upon the rate, scale, location, etc., of mineral production? Upon the structure of the industry?
  - (b) What can we do to evaluate these effects on the basis of different criteria?
  - (c) To what extent are the effects inherent and to what extent are they subject to institutional control?
5. University research sponsored by research agreements.
  - (a) The sociology of pollution (Elliot, Laurentian University). Study of the rights of property, both public and private in regard to land (i.e., surface rights, mineral rights, above-surface rights such as access to air and sunlight). Applied to (i) strip mining, (ii) hydroelectric installations, (iii) smelters and chemical plants.
  - (b) Mining in the national parks (Marsh, Trent University). Study of current landscape conditions, policies, and public attitudes regarding the conflict of mineral resource demands and recreational demands in national parks. Study of trends and changes of public value attitudes, and also physical and biological landscape recovery and change.
  - (c) Resource development in urban areas (Oehmican, University of Montreal). Study of the policies that could be developed to permit mining operations in urban areas by coordinating resource development interests with urban community interests. Research into the approaches by which excavations can be used as a means to increase the potential of the urban environment, and into techniques for rehabilitation of mined areas and millsites in the urban context.

## RESPONSE BY THE MINISTERS OF MINES

Toronto, November 22, 1973

- Item A. No comment.
- Item B. Agreed that there is a need to establish a consultative mechanism between both levels of government and industry in determining policy related to environmental matters. Agreed that there is a need to establish a procedure for informing the public on the benefits involved in balancing resource development with environmental quality.
- Item C. No comment.
- Item D. No comment.



**REPORT OF COMMITTEE NO. 5**  
**PETROLEUM AND NATURAL GAS**

CO-CHAIRMEN: Dr. G. B. Mellon  
Mr. J. T. Cawley

- A. Reports of various study groups were received on the following topics:
- (1) Disposal of waste products into underground formations.
  - (2) Recent developments in offshore operations.
  - (3) Environment protection policies and legislation in Canada.
  - (4) Oil-spill contingency plans.
- B. It was recommended that the Model Geophysical Regulations be viewed and rewritten.
- C. It was recommended that:
- (1) The subsurface disposal of industrial waste be placed under the authority of the oil and gas agencies in the provinces and the federal government, and
  - (2) Model legislation be developed for the disposal of industrial wastes into underground formations.
- D. It was recommended that:
- (1) The vertical enlargement provisions used in the present Model Unit Agreement be set up as a separate section of the model agreement, and
  - (2) The new Model Accounting Procedure in the Model Unit Agreement be accepted.
- E. It was recommended that new regulations be incorporated into existing Air Pollution Regulations in various provinces having a coastline so as to protect the onshore as well as the offshore environment.
- F. It was recommended that the Chairman of Committee No. 5 meet with the Agenda Committee in an attempt to re-structure and re-define its objectives and functions within the context of the Conference.
- G. It was recommended that Committee No. 5 continue as a standing committee.

**RESPONSE BY THE MINISTERS**

**Toronto, November 22, 1973**

Items A to G: Agreed with the recommendations of Committee No. 5.

## **REPORT OF COMMITTEE NO. 6**

### **EDUCATION**

**CHAIRMAN:** Mr. J. G. Wotherspoon

- A. The committee came to the conclusion that after pursuing certain educational objectives without success, the committee was no longer serving a useful purpose at the Mines Ministers' Conference.

It was recommended that Committee No. 6 be discontinued.

## **RESPONSE BY THE MINISTERS OF MINES**

**Toronto, November 22, 1973**

- Item A. Agreed that Committee No. 6 should be discontinued.

## CLOSING PLENARY SESSION — MINES MINISTERS' CONFERENCE

The Closing Plenary Session was held at 4:00 p.m. Tuesday, October 2 under the chairmanship of the Honourable Leo T. Nimsick. Mr. Nimsick introduced the six Ministers seated at the head table and invited them to participate in discussions of the Committee Reports as they were presented.

Each of the six Committee Chairmen gave a report on the accomplishments of their committees during the Conference.

The Chairmen thanked each speaker and announced that a meeting of the Ministers and Deputy Ministers was scheduled for Toronto where a summation of the Conference and future deliberations would be discussed.

The Honourable A. Edison Stairs extended an invitation to hold the 1974 Conference in Moncton, Nova Scotia in late September.

Mr. Nimsick thanked Mr. Stairs and concluded the Thirtieth Annual Conference.





## CANADIAN MINISTERIAL CONFERENCE ON MINERAL POLICY

The Ministers of Mines Conference held in Edmonton in 1972 initiated proposals aimed at making these Annual Conferences more effective and more directly concerned with key issues related to mineral resource development. At an agenda meeting of Deputy Ministers held in Vancouver, April 19, 1973, it was recognized that the most vital current issues are related to mineral policy. Thus the theme *Mineral Policy Objectives for Canada* was adopted for the 30th Conference and the policy document which had just been released was put forward for discussion. Development of a unified mineral policy for Canada demands better consultation between provincial and federal governments. These Annual Conferences are one means of provincial-federal communication.

Out of this background emerged two objectives for the 30th Conference. One was to revitalize the traditional role of the Conference by asking each committee to reconsider its activities and make recommendations for either improving or discontinuing its function. The other was to develop a mechanism for improved meaningful discussions between the provincial and federal governments on mineral policy.

The first objective is covered in detail in these Proceedings by the committee reports but the second is referred to only in the papers presented at the Plenary Session. At the Conference the Ministers generally agreed that the Provincial Mines Ministers' Conference should not be the principal vehicle for discussion of policy issues. One outcome of the 30th Conference, however, was formation of a Canadian Ministerial Conference on Mineral Policy. A communique by the federal and provincial Ministers following a meeting in Toronto is as follows:

A Canadian Ministerial Conference on Mineral Policy was established on November 23, 1972 by federal and provincial Ministers responsible for mineral policy. Co-chairmen of the meeting were the Honourable Leo Bernier, Ontario Minister of Natural Resources and the Honourable Donald S. Macdonald, Federal Minister of Energy, Mines and Resources.

Last April, Ministers had agreed on the need for a new consultative mechanism to facilitate the review and development of mineral policies that are national in scope. Ministers agreed today that intergovernmental consultation in the field of mineral policy means intergovernmental dialogue that takes place early enough in the policy making process so that the federal and provincial governments have the opportunity to influence each other's views. Intergovernmental consultation does not necessarily imply agreement.

In discussions, the consultative function was viewed as a continuous intergovernmental process whereby cooperation on analysis, and a sharing of views and perceptions, provide a better basis for policy decisions and actions by individual governments. While it may be possible and desirable to achieve intergovernmental consensus on some issues, the Conference should not be viewed as a joint decision-making body.

Ministers agreed that they will not expect that all issues of joint concern will be dealt with in the consultative process. Short-term crises may require immediate unilateral policy decisions and actions by an individual government in its area of responsibility. In this context, while the number and intensity of such situations might be reduced through the functioning of the Conference, future success will be related to consultations on medium and long-term issues.

Policy decisions are the responsibility of individual governments. Ministers agreed that the Conference will be effective if it provides a sound foundation for intergovernmental discussion during the early stages of policy development.

The Conference is intended to meet a need not met by either existing interprovincial institutions or normal bilateral consultations among and between levels of government. The Conference is not a substitute for these important components of the total Canadian mineral policy system.

Ministers agreed that the Conference would be chaired jointly by the Federal Minister of Energy, Mines and Resources, and the Provincial Minister hosting the annual Provincial Mines Ministers' Conference.

Ministers agreed that, in 1974, the Conference would focus on questions pertaining to: uranium policy; the respective roles of federal and provincial governments in the control, management, and disposal of minerals; and further development of a Canadian mineral policy. Last April, Ministers released to the public a document on Mineral Policy Objectives for Canada as a basis for further discussion. The Honourable Donald S. Macdonald introduced proposals and Ministers agreed that the next step in the development of policies for minerals (not including mineral fuels) is the choice of priorities in order to obtain the best benefits from minerals for Canadians.

#### **APPROVED BY:**

**Honourable William D. Dickie,**  
Minister of Mines (Alberta).

**Honourable Donald R. Getty,**  
Minister Intergovernmental Affairs (Alberta).

**Honourable Leo T. Nimsick,**  
Minister of Mines and Petroleum Resources (British Columbia).

**Honourable Sidney Green,**  
Minister of Mines (Manitoba).

**Honourable L. S. Evans,**  
Minister of Industry and Commerce (Manitoba).

**Honourable A. Edison Stairs,**  
Minister of Natural Resources (New Brunswick).

**Honourable Leo D. Barry,**  
Minister of Mines (Newfoundland).

**Honourable L. L. Pace,**  
Minister of Mines (Nova Scotia).

**Honourable Jean-Gilles Masse,**  
Minister of Natural Resources (Quebec).

**Honourable Kim Thorson,**  
Minister of Mines (Saskatchewan).

**Honourable Donald S. Macdonald,**  
Minister of Energy, Mines and Resources (Canada).

**Mr. Len Marchand,**  
Parliamentary Assistant to the  
Minister of Indian Affairs and Northern Development (Canada).

**Honourable Leo Bernier,**  
Minister of Natural Resources (Ontario).

**Honourable W. D. McKeough,**  
Minister of Energy (Ontario).

**Honourable Wm. M. Gallant,**  
Minister of the Environment and Tourism  
and Community Services (Prince Edward Island).



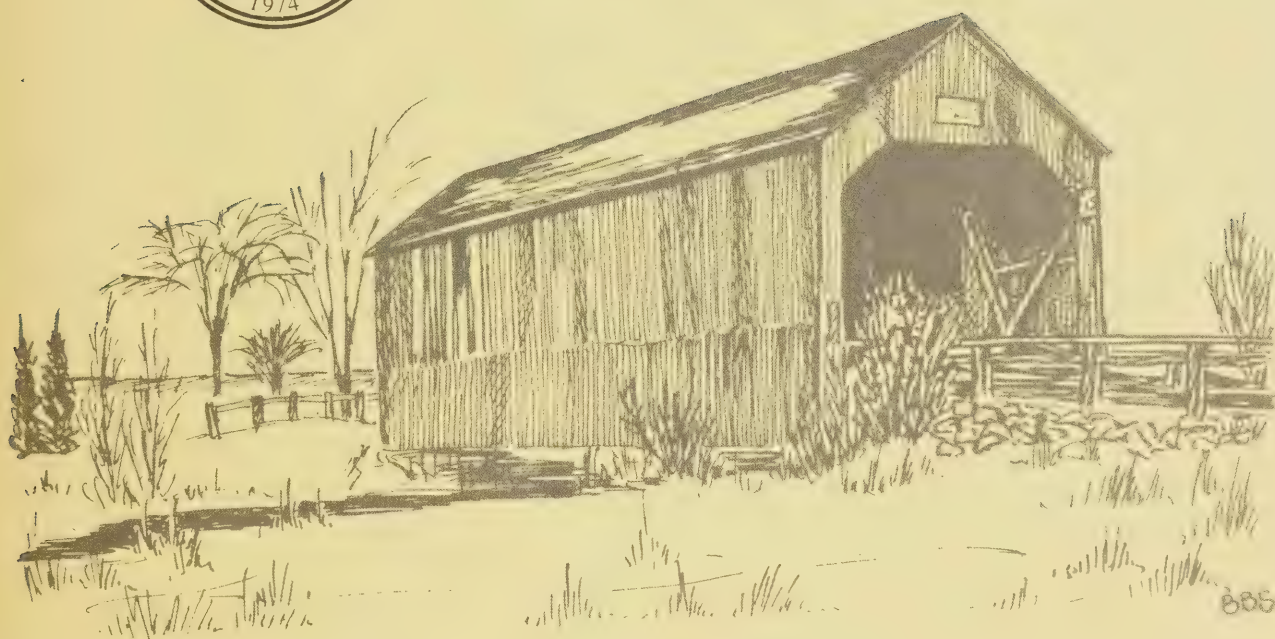




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Government  
Publications

# Provincial Ministers of Mines



## THIRTY-FIRST ANNUAL CONFERENCE PROCEEDINGS

HOTEL BEAUSEJOUR, MONCTON, NEW BRUNSWICK  
OCTOBER 6 TO 8, 1974

**FRONT COVER:**

Covered bridge at Plumweseep near Sussex. This bridge, typical of many in New Brunswick, directly overlies the first potash deposit discovered in the Province (1971). The discovery hole was drilled for the New Brunswick Department of Natural Resources under a Federally-sponsored program.

Pen and ink drawing by Basil B. Stead, East Riverside, N.B.

## DEDICATION



This volume is dedicated to Cedric S. Clements whose death shortly after the Conference came as a surprise to his many friends. Since the inception of the Conference of the Provincial Ministers of Mines his counsel and service had been unselfishly given. The Province of New Brunswick recognized his wise counsel in appointing him Mines Commissioner, the position he held at the time of his death.





PROCEEDINGS  
Thirty-first Annual Conference  
of the  
Provincial Ministers of Mines

OCTOBER 6 - OCTOBER 8, 1974

HOTEL BEAUSÉJOUR

MONCTON, NEW BRUNSWICK

Chairman of the Conference  
HONOURABLE A. EDISON STAIRS  
Minister of Natural Resources

Deputy Chairman

MR. R. L. BISHOP  
Deputy Minister

Coordinator

MR. C. S. CLEMENTS  
Mines Commissioner

Ladies' Committee

MRS. A. E. STAIRS

MRS. R. L. BISHOP

MRS. C. S. CLEMENTS

# TABLE OF CONTENTS

	Page
Dates and Places of the Annual Conferences of the Provincial Ministers of Mines .....	4
Provincial Ministers of Mines and Deputy Ministers at the time of the Thirty-first Annual Conference of the Ministers of Mines .....	5
Group Picture .....	7
Programme .....	8
Committees and Agenda .....	11
Ladies' Programme .....	12
List of Delegates and Observers Registered at the Mines Ministers Conference .....	13
List of Ladies Present .....	20
Opening Session - Provincial Ministers of Mines Conference .....	22
Address of Honourable A. E. Stairs .....	22
Plenary Session .....	24
Address of W. G. Brissenden, President, Brunswick Mining and Smelting Corporation, Ltd. ....	24
Address of John S. Poyen, President, Canadian Petroleum Association .....	28
Address of Paul LePage, Sub-district Director, United Steel Workers of America .....	32
Address of J. P. Drolet, Assistant Deputy Minister, Dept. of Energy, Mines and Resources .....	38
Committee Reports and Recommendations .....	44
No. 1 - Technical .....	47
No. 2 - Financial and Statistical .....	79
No. 3 - Social .....	114
Response by the Ministers .....	128
Canadian Ministerial Conference on Mineral Policy .....	132

DATES AND PLACES  
OF THE  
ANNUAL CONFERENCES  
OF THE  
PROVINCIAL MINISTERS OF MINES

CONFERENCE	DATE	PLACE
First	1945 April 14-16	Quebec, P.Q.
Second	1945 November 22-23	Toronto, Ontario
Third	1946 September 23-27	Winnipeg, Manitoba
Fourth	1947 September 3-5	Keltic Lodge, Nova Scotia
Fifth	1948 September 2-4	Jasper, Alberta
Sixth	1949 September 7-10	Fredericton, New Brunswick
Seventh	1950 September 13-16	Victoria, British Columbia
Eighth	1951 September 4-8	Saskatoon, Saskatchewan
Ninth	1952 September 15-17	Quebec, P.Q.
Tenth	1953 September 16-18	Niagara Falls, Ontario
Eleventh	1954 September 20-22	Winnipeg, Manitoba
Twelfth	1955 September 12-14	Keltic Lodge, Nova Scotia
Thirteenth	1956 September 10-12	Lake Louise, Alberta
Fourteenth	1957 September 4-6	Vancouver, British Columbia
Fifteenth	1958 September 3-5	St. Andrews, New Brunswick
Sixteenth	1959 September 14-16	Regina, Saskatchewan
Seventeenth	1960 October 16-19	Quebec, P.Q.
Eighteenth	1961 September 17-20	Toronto, Ontario
Nineteenth	1962 September 16-18	Winnipeg, Manitoba
Twentieth	1963 September 15-18	Halifax, Nova Scotia
Twenty-first	1964 September 6-9	Banff, Alberta
Twenty-second	1965 September 12-15	Victoria, British Columbia
Twenty-third	1966 September 18-21	Saint John, New Brunswick
Twenty-fourth	1967 September 17-20	Regina, Saskatchewan
Twenty-fifth	1968 September 15-18	Quebec, P.Q.
Twenty-sixth	1969 September 14-17	Toronto, Ontario
Twenty-seventh	1970 September 7-10	Winnipeg, Manitoba
Twenty-eighth	1971 September 12-15	Halifax, Nova Scotia
Twenty-ninth	1972 September 10-13	Edmonton, Alberta
Thirtieth	1973 September 30 - October 2	Victoria, British Columbia
Thirty-first	1974 October 6-8	Moncton, New Brunswick

## MINISTERS OF MINES

HONOURABLE LEO D. BARRY

Minister of Mines and Energy, Newfoundland

HONOURABLE JOHN H. MALONEY

Minister of Industry and Commerce, Prince Edward Island

HONOURABLE LEONARD L. PACE

Minister of Mines, Nova Scotia

HONOURABLE A. EDISON STAIRS

Minister of Natural Resources, New Brunswick

HONOURABLE JEAN-GILLES MASSÉ

Minister of Natural Resources, Quebec

HONOURABLE LEO BERNIER

Minister of Natural Resources, Ontario

HONOURABLE SIDNEY GREEN

Minister of Mines, Resources, and Environmental  
Management, Manitoba

HONOURABLE ELWOOD COWLEY

Minister of Mineral Resources, Saskatchewan

HONOURABLE WM. D. DICKIE

Minister of Mines and Minerals, Alberta

HONOURABLE LEO T. NIMSICK

Minister of Mines and Petroleum Resources, British Columbia

## DEPUTY MINISTERS

MR. JOHN H. MCKILLOP

Newfoundland

MR. DAVID E. MORRISON

Prince Edward Island

MR. JOHN C. SMITH

Nova Scotia

MR. R. L. BISHOP

New Brunswick

MR. JEAN-GUY FREDETTE

Quebec

DR. J. K. REYNOLDS

Ontario

MR. JAMES T. CAWLEY

Manitoba

MR. J. WOTHERSPOON

Saskatchewan

DR. G. B. MELLON

Alberta

MR. JOHN E. McMYNN

British Columbia





PROVINCIAL MINISTERS OF MINES

31st ANNUAL CONFERENCE - MONCTON, NEW BRUNSWICK, 1974

PHOTO ON ADJACENT PAGE

Back row: Honourable John H. Maloney, Prince Edward Island; Honourable Leo Bernier, Ontario; Honourable Leo D. Barry, Newfoundland; Honourable Elwood Cowley, Saskatchewan; Honourable Sidney Green, Manitoba.

Front row: Honourable Wm. D. Dickie, Alberta; Honourable Leo T. Nimsick, British Columbia; Honourable A. Edison Stairs, New Brunswick; Honourable Leonard L. Pace, Nova Scotia; Honourable Jean-Gilles Massé, Quebec.

## PROGRAMME

Sunday, October 6

10:00 a.m. - REGISTRATION

### ADVANCE COMMITTEE MEETINGS

- 9:00 a.m. - Joint Meeting of Provincial Mining  
Associations ..... Salon Shediak
- 9:30 a.m. - Meeting of Deputy Ministers ..... Boardroom
- 2:00 p.m. - 5:00 p.m.
- Meeting of Chief Mine Inspectors .... Salon Shediak
  - Meeting of Mineral Statistics  
Subcommittee ..... Salon Cartier

### TOURS

- 1:30 p.m. - GROUP 1 Shediak Bay Cruise followed by lobster plate  
at Shediak Inn.
- GROUP 2 Visit to Mount Allison University, 30-minute  
organ recital, then to Owens Art Gallery,  
followed by lobster plate at Borden's  
Dykeland Diner.
- 8:30 p.m. - Seafood Chowder get-together ..... Le Grand Salon
- Refreshments

Monday, October 7

8:00 a.m. - REGISTRATION

9:30 a.m. - OPENING PLENARY SESSION in B and C Sections

Chairman - The Honourable A. E. Stairs  
Address of Welcome

His Worship G. D. Wheeler  
Major of the City of Moncton

Honourable Donald S. Macdonald  
Minister of Energy, Mines and Resources

10:00 a.m. - 12:00 noon -

MINISTERS MEETING ..... Salon Shediach

Committee No. 1 ..... Salon Cartier

Committee No. 2 ..... Salon MacDonald

Committee No. 3 ..... Section B

12:30 p.m. - LUNCHEON - Gentlemen ..... Le Grand Salon  
(Courtesy of N. B. Metal Mining Association)

2:00 p.m. - 5:00 p.m.

SCHEDULED MEETINGS OF INDUSTRY REPRESENTATIVES  
WITH MINISTERS

CONTINUATION OF COMMITTEE MEETINGS

6:15 p.m. - RECEPTION - Ladies and Gentlemen ... Le Grand Salon  
(Courtesy of N. B. Metal Mining Association)

7:00 p.m. - CONFERENCE DINNER ..... Le Grand Salon

(Delegates and ladies will be guests at a dinner  
given by the Honourable A. E. Stairs, Minister of  
Natural Resources of the Province of New Brunswick)

Speaker - Stuart Trueman  
(Author, speaker, historian and humorist, former  
Editor of and currently Contributing Editor to the  
Saint John Telegraph-Journal)



Tuesday, October 8

9:30 a.m. - 10:30 a.m. - PLENARY SESSION (B and C Sections)

Panel - "Government-Industry Cooperation in  
Mineral Development"

Moderator - Dr. J. P. Nowlan

Panelists - W. G. Brissenden, Noranda Mines Ltd.  
John S. Poyen - Canadian Petroleum Assoc.  
Paul LePage - United Steel Workers of America  
J. P. Drolet - Energy, Mines and Resources

10:30 a.m. - Continuation of Panel

- Meeting of Ministers on Committee  
Reports ..... Salon Shediac

3:10 p.m. - CLOSING PLENARY SESSION (B and C Sections)

Reports of Committee Chairman

Comments of Ministers

## AGENDA FOR COMMITTEES

### COMMITTEE No. 1 - TECHNICAL

Technical aspects of the Mineral Industry in the fields of Exploration and Mining Operations

Chairman - Dr. G.B. Mellon  
Vice Chairman - Mr. J.G. Fredette

1. Exploration information and statistics.
2. Role of government in mineral exploration.
3. Role of government and industry in uranium exploration and development.
4. Status of sub-committees.

### COMMITTEE No. 2 - FINANCIAL AND STATISTICAL

Financing, Marketing, Royalties, Taxation, Tariffs, and Mineral Statistics.

Chairman - Mr. J.T. Cawley  
Vice Chairman - Mr. G. Jewett

1. Review provincial legislation.
2. Provide (if possible) tax models illustrating existing federal and provincial taxation.
3. Discuss the rationale of Crown corporations in the extractive industries.
4. Receive the report of the sub-committee on mineral statistics.
5. Long term planning and national energy policy.
6. Status of sub-committees.

COMMITTEE No. 3 - SOCIAL

Problems pertaining to the environment, manpower, education, and other social matters.

Chairman - Mr. J.C. Smith  
Vice Chairman - Mr. J.H. McKillop

1. Environmental regulations of Federal and Provincial Governments respecting mining operations.
2. Land use planning and economic models for assessing the socio-economic impact of a proposed mineral development.
3. New legislation and regulations.
4. Extent of government-industry-labor communication in preparation of new legislation.
5. Manpower problems with emphasis on immigration regulations and manpower training.
6. Recruitment and retention of workers in isolated mining communities.
7. Status of sub-committees.

## LADIES' PROGRAMME

Monday, October 7

- 10:00 a.m. - GROUP 1 - Visit to winery of Normandie Wines Limited followed by luncheon at Magnetic Hill Inn (Ladies)
- 11:30 a.m. - GROUP 2 - Luncheon at Magnetic Hill Inn followed by visit to winery of Normandie Wines Limited (Ladies)
- 6:15 p.m. - Reception - Ladies and Gentlemen
- Dinner - Ladies and Gentlemen

Tuesday, October 8

- 10:30 a.m. - Ladies Fashion Show - Cloud 9, 20th Floor, Assumption Place (adjoining hotel)
- 1:30 p.m. - Ladies Luncheon - Cloud 9, 20th Floor, Assumption Place (adjoining hotel)

## POST-CONFERENCE TOUR

Wednesday, October 9

Post-Conference Tour to Prince Edward Island. Leave Moncton by motorbus 7:30 a.m. to Cape Tormentine, modern ferry to P.E.I., luncheon at beautiful Stratgartney Inn, visit Confederation Centre (Charlottetown), Cavendish Beach (Anne of Green Gables), Kensington, Summerside, Borden, to ferry, Cape Tormentine, along Northumberland Strait to Shediac, and to Moncton arriving at midnight. Cost - \$25.00. A minimum of 40 participants will be required to schedule this tour.

This is a very casual trip and includes a one and one-half hour boat trip each way.

Refreshments available.



LIST OF DELEGATES AND OBSERVERS  
REGISTERED AT THE MINES MINISTERS CONFERENCE

ALBERTA

Dickie, Honourable Bill	Minister of Mines and Minerals
Mellon, Dr. G.B.	Deputy Minister of Mines and Minerals
Armstrong, Mr. G.M.	LL&E Canada, Ltd.
Aschacker, Mr. M.	Department of Mines and Minerals
Booth, Mr. H.	Alberta Natural Gas Company Ltd.
Bredin, Mr. E.M.	Mobil Oil Canada, Ltd.
Cameron, Mr. G.W.	Independent Petroleum Association of Canada
Currie, Mr. J.H.	Tenneco Oil & Minerals, Ltd.
Fuller, Mr. K.W.	Energy Resources Conservation Board
Gent, Mr. E.C.	Dome Petroleum Limited
Hamilton, Mr. W.T.	Westcoast Petroleum Ltd.
Hermann, Mr. R.C.	Manalta Coal Ltd.
Holubowisch, Mr. F.J.	Department of Mines and Minerals
Hriskevich, Mr. M.E.	Aquitaine Co. of Canada
Humphreys, Mr. R.D.	Great Canadian Oil Sands Limited
Kanik, Mr. M.F.	Department of Mines and Minerals
Laidlaw, Mr. R.W.	Gibson Petroleum Company Limited
Leslie, Mr. G.A.	TransCanada PipeLines
McKinnon, Mr. D.J.	Ashland Oil Canada Ltd.
Maciej, Mr. H.	Canadian Petroleum Association
Montgomery, Mr. L.H.	Department of Mines and Minerals
Monzingo, Mr. B.	Murphy Oil Co.
Nisbet, Mr. T.	Department of Federal and Intergovernmental Affairs
Pearce, Mr. H.G.	Foster Research Limited
Pearson, Mr. S.G.B.	Gulf Oil Canada Limited
Porter, Mr. J.D.	Canadian Association of Oilwell Drilling Contractors
Pow, Mr. J.R.	Department of Mines and Minerals
Rasmussen, Mr. L.M.	Pacific Petroleums Ltd.
Rudolph, Mr. J.C.	Bluemount Resources Ltd.
Spady, Miss E.K.	Department of Mines and Minerals
Stewart, Mr. S.	Atlantic Richfield Canada Ltd.
Taylor, Mr. John M.	PanCanadian Petroleum Limited

## BRITISH COLUMBIA

Nimsick, Honourable Leo  
McMynn, Mr. J.E.

Axford, Mr. D.W.  
Dumett, Mr. C.W.  
Hebb, Mr. C.H.  
Higgs, Mr. F.G.  
Horn, Mr. H.  
Fyles, Dr. J.T.  
Little, Mr. J.D.  
Matthew, Mr. P.R.  
Peck, Mr. J.W.  
Poyen, Mr. J.S. Jr.  
Rothman, Mr. S.M.  
Scholz, Mr. E.A.  
Wilson, Mr. W.

Minister of Mines and Petroleum Resources  
Deputy Minister of Mines and Petroleum  
Resources  
Mobil Oil Canada, Ltd.  
Union Oil Co. of Canada  
Kaiser Resources Ltd.  
British Columbia & Yukon Chamber of Mines  
Department of Mines and Petroleum Resources  
Department of Mines and Petroleum Resources  
Placer Development Limited  
Mining Association of British Columbia  
Department of Mines and Petroleum Resources  
Department of Mines and Petroleum Resources  
Cominco Ltd.  
Placer Development Limited  
Department of Mines and Petroleum Resources

## MANITOBA

Green, Honourable Sidney

Cawley, Mr. J.T.

Bloy, Mr. H.  
Cain, Mr. P.A.  
Dunlop, Mr. B.  
Goodman, Mr. J.E.  
Haugh, Dr. I.

Henderson, Dr. G.G.L.  
Koffman, Mr. A.A.  
Lebel, Mr. J.L.  
Moore, Mr. W.A.  
Munn, Mr. D.E.  
Perry, Mr. C.A.  
Roper, Mr. J.S.

Williams, Mr. C.T.  
Wilson, Mr. H.D.B.

Minister of Mines, Resources and Environmental  
Management  
Deputy Minister of Mines, Resources and  
Environmental Management  
The Mining Association of Manitoba Inc.  
Sherritt Gordon Mines Limited  
W. Bruce Dunlop Limited, N.P.L.  
Hudson Bay Mining and Smelting Co. Ltd.  
Department of Mines, Resources and Environmental  
Management  
Chevron Standard Ltd.  
Manitoba Mineral Resources Ltd.  
Chevron Standard Ltd.  
Falconbridge Nickel Mines Ltd.  
The International Nickel Company of Canada, Ltd.  
Department of Finance  
Department of Mines, Resources and Environmental  
Management  
Tantalum Mining Corp. of Canada  
Department of Mines, Resources and Environmental  
Management

## NEW BRUNSWICK

Stairs, Honourable A. Edison	Minister of Natural Resources
Bishop, Mr. R.L.	Deputy Minister of Natural Resources
Bailey, Mr. D.D.W.	Department of Natural Resources
Beliveau, Mr. L.C.	Sullivan Mining Group
Bell, Mr. A.V.	Montreal Engineering Co. Ltd.
Bonus, Mr. J.L.	The Mining Association of Canada
Brissenden, Mr. W.G.	Brunswick Mining and Smelting Corp.
Brummer, Dr. J.J.	Canadian Occidental Petroleum Ltd.
Busby, Mr. K.R.	Potash Co. of America
Buzas, Mr. A.	Anaconda American Brass Ltd.
Campbell, Mr. R.A.	Department of Industry, Trade & Commerce
Clements, Mr. C.S.	Department of Natural Resources
Costello, Mr. W.	The Mining Association of Canada
Coughlan, Mr. E.K.	Department of Natural Resources
Davis, Mr. D.W.	Department of Natural Resources
Gilchrist, Mr. W.M.	Canadian Institute of Mining & Metallurgy
Jarrett, Mr. A.E.	Department of Natural Resources
Kingston, Dr. P.W.E.	Department of Natural Resources
Lee, Mr. C.S.	New Brunswick Oilfields Ltd.
Lepage, Mr. P.	United Steelworkers of America
MacGarvie, Mr. G.H.	Cabinet Secretariat
McKee, Mr. D.M.	Heath Steele Mines Limited
Mannard, Mr. G.W.	Texasgulf, Inc.
Mikkelborg, Mr. C.R.	Canadian Occidental Petroleum
Moerman, Mr. J.W.	Brunswick Mining and Smelting Corp.
North, Mr. K.	Consolidated Durham Mines Limited
O'Leary, Mr. L.S.	Department of Natural Resources
Pelletier, Mr. A.T.	Department of Natural Resources
Potter, Dr. R.R.	Department of Natural Resources
Selwyn, Mr. J.	Canada Cement Lafarge Ltd.
Simmons, Mr. D.M.	Western Underground Contractors Ltd.
Spence, Mr. W.I.	Department of Natural Resources
Tapp, Mr. E.G.	Canadian Institute of Mining and Metallurgy
Taschereau, Mr. M.E.	Brunswick Mining and Smelting Corp.
Ursel, Mr. R.A.G.	Western Underground Contractors Ltd.
Warnock, Mr. B.	Department of Natural Resources
Warren, Mr. R.W.	Department of Natural Resources
Young, Mr. A.	Brunswick Mining and Smelting Corp.

## NEWFOUNDLAND

Barry, Honourable Leo  
McKillop, Mr. John H.  
Burns, Mr. J.D.  
Carter, Mr. F.H.  
Duff, Mr. D.E.  
Dunlap, Mr. G.E.  
Fleming, Mr. J.M.  
Grimley, Mr. P.H.  
Haflidson, Mr. R.S.  
Hillier, Mr. H.  
Howse, Mr. C.K.  
Kipnis, Mr. N.  
McKinnon, Mr. F.A.  
March, Mr. R.R.  
May, Mr. J.L.  
Millan, Mr. S.M.  
Penney, Mr. P.E.  
Ross, Mr. C.B.  
Sparks, Mr. R.W.  
Taylor, Dr. D.M.  
Wank, Mr. F.J.

Minister of Mines and Energy  
Deputy Minister of Mines and Energy  
Amoco Canada  
Pickands Mather & Co.  
Eastcan Exploration Ltd.  
Canadian Petroleum Association  
Department of Mines and Energy  
Brinex Ltd.  
Consolidated Rambler  
Department of Finance  
Iron Ore Company of Canada  
Department of Mines and Energy  
BP Canada Limited  
Department of Mines and Energy  
Newfoundland Zinc Mines Ltd.  
Department of Mines and Energy  
Iron Ore Company of Canada  
Labrador Mining & Exploration Co. Ltd.  
Texaco Canada Ltd.  
BP Minerals Ltd. (Eastern Canada)  
Teck Corporation Limited

## NOVA SCOTIA

Pace, Honourable Leonard L.  
Smith, Mr. J.C.  
Berry, Mr. C.G.  
Cameron, Mr. J.R.  
Ebbels, Mr. J.C.  
Grant, Mr. R.I.  
Hansuld, Mr. J.A.  
Hudgins, Mr. A.  
James, Mr. C.R.  
Macdonald, Mr. J.A.  
MacQuarrie, Mr. J.R.  
McIvor, Mr. D.K.  
Nowlan, Dr. J.P.  
O'Brien, Mr. R.J.  
Potter, Mr. W.  
Scott, Mr. F.  
Shea, Mr. F.S.  
Slater, Mr. R.  
Smith, Mr. D.W.  
Zorychta, Mr. H.

Minister of Mines  
Deputy Minister of Mines  
Shawnee Petroleums Ltd.  
National Gypsum (Canada) Ltd.  
Shell Canada Limited  
Georgia-Pacific Corp.  
Amax Exploration Inc.  
Cuvier Mines Ltd.  
Department of Mines  
Getty Mines Ltd.  
The Canadian Rock Salt Co. Ltd.  
Imperial Oil Limited  
N.S. Technical College  
Shell Canada Limited  
Department of Mines  
Imperial Oil Ltd., (Minerals)  
Department of Mines  
Department of Mines  
Dresser Minerals  
Department of Mines



## PRINCE EDWARD ISLAND

Maloney, Honourable John H.	Minister of Industry and Commerce
Bondar, Mr. L.G.	Texaco Exploration Canada Ltd.
Campbell, Mr. K.J.	Texaco Exploration Canada Ltd.
Govier, Mr. G.W.	Energy Resources Conservation Board
Jones, Mr. D.C.	Hudson's Bay Oil & Gas Co. Ltd.
Murricane, Mr. K.	Department of Industry and Commerce
Poyen, Mr. J.S.	Canadian Petroleum Association
Shaw, Dr. W.S.	St. Francis Xavier University
Stuart, Mr. G.C.	Hudson's Bay Oil & Gas Co. Ltd.
Thompson, Mr. B.	Getty Oil (Canadian Operations), Ltd.
Trent, Mr. P.E.	Petrofina Canada Ltd.
White, Mr. M.V.	Getty Mines Ltd.

## QUEBEC

Masse, Honourable J.-Gilles	Minister of Natural Resources
Fredette, Mr. J.-G.	Deputy Minister of Natural Resources
Carbonneau, Mr. C.	SOQUEM
Cloutier, Mr. B.	SOQUIP
Durand, Mr. D.	Federal-Provincial Relations Intergovernmental Affairs
Filteau, Mr. P.-A.	Quebec Asbestos Mining Association
Ford, Mr. D.H.	Noranda Mines Ltd.
Genest, Mr. C.	SOQUEM
Girardin, Mr. R.S.	Iron Ore Company of Canada
Godbout, Mr. A.	Department of Industry and Commerce
Grenier, Mr. P.-E.	Department of Natural Resources
Kostuik, Mr. J.	Denison Mines Limited
Langlois, Mr. L.G.	Quebec Metal Mining Association Inc.
Laurin, Mr. A.F.	Department of Natural Resources
Marcoux, Mr. C.	Mattagami Lake Mines Ltd.
Olivier, Mr. C.-A.	Department of Natural Resources
Paradis, Mr. G.	Department of Natural Resources
Ruelland, Mr. J.	Department of Natural Resources
Sirois, Mr. R.	Department of Natural Resources
St-Onge, Mr. V.	Quebec Cartier Mining Company
Tanguay, Mr. L.G.	Department of Natural Resources
Taschereau, Mr. M.A.	Sigma Mines (Quebec) Ltd.
Tetu, Mr. J.	Department of Natural Resources
Wright, Mr. W.R.	Falconbridge Copper Limited

## ONTARIO

Bernier, Honourable Leo  
 Reynolds, Dr. J.K.  
 Barrett, Mr. C.M.  
 Christie, Mr. R.M.  
 Colborne, Mr. G.L.  
 Craig, Mr. D.B.  
 Dutton, Mr. W.L.  
 Gilchrist, Mr. G.  
 Graham, Mr. J.A.  
 Harding, Mr. G.R.  
 Hart, Mr. R.C.  
 Jewett, Mr. G.A.  
 Jones, Mr. F.R.  
 Kilburn, Mr. L.C.  
 Lochhead, Mr. D.R.  
 McGinn, Mr. J.R.  
 Marshall, Mr. W.J.  
 Mohide, Dr. T.P.  
 O'Connor, Mr. L.G.  
 Pye, Dr. E.G.  
 Schmitt, Mr. D.E.  
 Wadge, Mr. N.H.  
 Wouters, Mr. J.W.

Minister of Natural Resources  
 Deputy Minister of Natural Resources  
 Ministry of Natural Resources  
 Ministry of Natural Resources  
 The Price Company  
 International Nickel Company of Canada Ltd  
 Ontario Natural Gas Association  
 United Steelworkers of America  
 Ontario Mining Association  
 Falconbridge Nickel Mines Limited  
 Rio Tinto Canadian Exploration Ltd.  
 Ministry of Natural Resources  
 Steep Rock Iron Mines Limited  
 Falconbridge Nickel Mines Ltd.  
 Falconbridge Nickel Mines Ltd.  
 Ministry of Natural Resources  
 Noranda Mines Limited  
 Ministry of Natural Resources  
 Ontario Natural Gas Association  
 Ministry of Natural Resources  
 Noranda Mines Limited  
 Ontario Mining Association  
 Ministry of Treasury Economics and  
 Intergovernmental Affairs

## SASKATCHEWAN

Cowley, Honourable Elwood  
 Wotherspoon, Mr. J.G.  
 Alderman, Mr. J.R.  
 Berg, Mr. C.A.  
 Buck, Mr. F.  
 Burton, Mr. J.S.  
 Cheesman, Dr. R.L.  
 Coons, Mr. R.M.  
 Connor, Mr. E.J.  
 Finn, Mr. F.C.  
 Francis, Mr. D.R.  
 Gillard, Mr. D.R.  
 Gordon, Mr. J.M.  
 LaBerge, Mr. A.L.  
 Lloyd, Mr. R.E.  
 McIntosh, Mr. K.E.  
 Mode, Mr. D.H.  
 Paquette, Mr. J.A.  
 Paulson, Mr. M.P.  
 Riley, Mr. C.J.  
 Tamaki, Mr. T.  
 Zubko, Mr. V.F.

Minister of Mineral Resources  
 Deputy Minister of Mineral Resources  
 Department of Labour  
 Saskatchewan Oil & Gas Corporation  
 Energy Secretariat  
 Department of Mineral Resources  
 Saskatchewan Mining Association  
 Department of Mineral Resources  
 Union Oil Co. of Canada Ltd.  
 Scurry-Rainbow Oil Limited  
 Department of Mineral Resources  
 Department of Mineral Resources  
 Central Canada Potash Co. Limited  
 Imperial Oil Ltd.  
 Energy Secretariat  
 The International Nickel Co. of Canada Ltd  
 Department of Mineral Resources  
 Kalium Chemicals Ltd.  
 Home Oil Company Limited  
 The International Nickel Co. of Canada Ltd  
 Department of Mineral Resources  
 Sun Oil Company

## GOVERNMENT OF CANADA

Shoyama, Mr. T.K.	Deputy Minister of Energy, Mines and Resources
Armstrong, Mr. G.T.	Department of Indian and Northern Affairs
Burk, Dr. C.F., Jr.	Department of Energy, Mines and Resources
Burke, Mr. B.F.	Department of Energy, Mines and Resources
Cavanagh, Mr. M.I.	Statistics Canada
Crandall, Mr. S.A.	Department of Indian and Northern Affairs
Dainty, Mr. E.D.	Department of Energy, Mines and Resources
Darnley, Mr. A.G.	Department of Energy, Mines and Resources
Drolet, Mr. J.-P.	Department of Energy, Mines and Resources
Elver, Dr. R.B.	Department of Energy, Mines and Resources
Fraser, Mr. E.J.	Department of Energy, Mines and Resources
Goddard, Mr. J.P.	Department of Energy, Mines and Resources
Hodgson, Mr. E.C.	Department of Energy, Mines and Resources
Homulos, Mr. S.	Department of Energy, Mines and Resources
Hunt, Mr. A.D.	Department of Indian and Northern Affairs
Joyce, Mr. F.J.	Department of Indian and Northern Affairs
Lusick, Mr. D.	Department of Indian and Northern Affairs
Moore, Mr. E.A.	Statistics Canada
Runnalls, Dr. O.J.C.	Department of Indian and Northern Affairs
Smith, Dr. C.H.	Department of Energy, Mines and Resources
Symons, Mr. A. J.	Department of Energy, Mines and Resources
Taylor, Mr. G.	Statistics Canada
	Department of Finance

## LIST OF LADIES PRESENT

### ALBERTA

Dickie, Mrs. B.  
Armstrong, Mrs. G.M.  
Booth, Mrs. H.  
Cameron, Mrs. G.W.  
Currie, Mrs. J.H.  
Gent, Mrs. E.C.  
Hermann, Mrs. R.C.

Holubowich, Mrs. F.J.  
Humphreys, Mrs. R.D.  
Kanik, Mrs. M.F.  
Laidlaw, Mrs. R.W.  
Leslie, Mrs. G.A.  
McKinnon, Mrs. D.J.  
Maciej, Mrs. Hans

Monzingo, Mrs. B.  
Pearson, Mrs. S.G.B.  
Porter, Mrs. J.D.  
Rasmussen, Mrs. L.M.  
Stewart, Mrs. S.  
Taylor, Mrs. J.M.

### BRITISH COLUMBIA

Nimsick, Mrs. L.T.  
McMynn, Mrs. J.E.  
Axford, Mrs. D.W.

Dumett, Mrs. C.W.  
Fyles, Mrs. J.T.  
Little, Mrs. J.D.

Matthew, Mrs. P.R.  
Scholz, Mrs. E.A.

### MANITOBA

Cawley, Mrs. J.T.  
Bloy, Mrs. H.  
Cain, Mrs. P.A.  
Goodman, Mrs. J.E.

Henderson, Mrs. G.G.L.  
Koffman, Mrs. A.A.  
Lebel, Mrs. J.L.  
Munn, Mrs. D.E.

Perry, Mrs. C.A.  
Roper, Mrs. J.S.  
Williams, Mrs. C.T.  
Wilson, Mrs. H.D.B.

### NEW BRUNSWICK

Stairs, Mrs. A.E.  
Bishop, Mrs. R.L.  
Beliveau, Mrs. L.C.  
Bonus, Mrs. J.L.  
Brissenden, Mrs. W.G.  
Busby, Mrs. K.R.  
Buzas, Mrs. A.  
Clements, Mrs. C.S.  
Coughlan, Mrs. E.K.

Davis, Mrs. D.W.  
Gilchrist, Mrs. W.M.  
Hallett, Miss M.J.  
Jarrett, Mrs. A.E.  
McKee, Mrs. D.M.  
Mannard, Mrs. G.W.  
Mikkelborg, Mrs. C.R.  
Moerman, Mrs. J.W.  
Pert, Mrs. M.L.

Potter, Mrs. R.R.  
Spence, Mrs. W.I.  
Tapp, Mrs. E.G.  
Trueman, Mrs. S.  
Vandenbroeck, Miss M.  
Wandless, Mrs. P.  
Warnock, Mrs. B.  
Warren, Mrs. R.W.  
Young, Mrs. A.

### NEWFOUNDLAND

Barry, Mrs. L.D.  
Burns, Mrs. J.D.  
Carter, Mrs. F.H.

Duff, Mrs. D.E.  
Dunlap, Mrs. G.E.  
Howse, Mrs. C.K.

McKinnon, Mrs. F.A.  
Penney, Mrs. P.E.  
Ross, Mrs. C.B.



## NOVA SCOTIA

Pace, Mrs. L.L.  
Smith, Mrs. J.C.  
Cameron, Mrs. J.R.  
Ebbels, Mrs. J.C.  
Grant, Mrs. R.I.

Hansuld, Mrs. J.A.  
Hudgins, Mrs. A.  
James, Mrs. C.R.  
Macdonald, Mrs. J.A.  
MacQuarrie, Mrs. J.R.

O'Brien, Mrs. R.J.  
Scott, Mrs. F.  
Shea, Mrs. F.S.  
Smith, Mrs. D.W.

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Hart, Mrs. R.C.  
Jewett, Mrs. G.A.  
Jones, Mrs. F.R.  
Lochhead, Mrs. D.R.  
McGinn, Mrs. J.R.  
Marshall, Mrs. W.J.

O'Connor, Mrs. L.G.  
Schmitt, Mrs. D.E.G.  
Wadge, Mrs. N.H.  
Wouters, Mrs. J.W.

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LaBerge, Mrs. A.L.  
Lloyd, Mrs. R.E.

McIntosh, Mrs. K.E.  
Paquette, Mrs. J.A.  
Riley, Mrs. C.J.  
Zubko, Mrs. V.F.

## GOVERNMENT OF CANADA

Joyce, Mrs. F.J.

Runnalls, Mrs. O.J.C.

OPENING PLENARY SESSION  
31st Annual Conference - Provincial Ministers of Mines  
Hotel Beauséjour - Moncton, N. B.  
October 7, 1974.

Address by

HONOURABLE A. EDISON STAIRS

Minister - Department of Natural Resources,  
Province of New Brunswick

Fellow Delegates,  
Ladies and Gentlemen.

This is the fourth conference of Provincial Mines Ministers to be held in New Brunswick, and it is a great pleasure for me to extend a sincere welcome to all of you on behalf of the Government of the Province. Previous meetings were held at Fredericton, Saint John and St. Andrews. We selected Moncton for 1974 not only because of its accommodation and good reputation as a convention centre, but because of its location in the heartland of Old Acadia. I hope all of you will have an opportunity to see a small portion of this picturesque and historic area.

New Brunswick's Mining and Petroleum Industry has had a long and colourful history. Early French explorers identified mineral occurrences along the Fundy shores in the early 17th century, and limestone was quarried near Saint John as early as 1701. Other discoveries were made in the years that followed. Hydrocarbons were found a few miles south of Moncton by Dr. Abraham Gesner, who carried out a geological survey for the Province between 1838 and 1842. In the ensuing years the Dover Oil Field was found, and commercial quantities of both oil and gas were intersected at Stoney Creek in 1912. This small field continues to produce natural gas and petroleum. Coal was shipped from Grand Lake in 1639 and this area is still producing coal for our thermal electric generating stations. Gypsum, limestone and building stone have been produced over the years, but New Brunswick did not become a true "mining" province until the discovery of huge zinc-lead and copper deposits near Bathurst in 1952.

The psychological barrier was broken, and millions of exploration dollars were spent in our Province over the past twenty years. Many new discoveries were made, and several potential ore bodies are now in the final stages of exploration.

New Brunswick has waited nearly four hundred years for a strong and diversified mining industry. Our future looks very bright and I sincerely hope nothing destroys the momentum that has taken us so long to develop.

Ladies and Gentlemen, we are living in difficult times. Energy and raw material shortages have had significant effects on the economics of all countries, large and small. Governments of both the have and have not nations reacted immediately to these shortages. Fortunately Canada is in a preferred position, mainly because previous policies have encouraged the exploration and development of our mineral and mineral fuel resources. How long can we remain in this strong position?

How can we make sure that there is enough risk capital and technical expertise available to find and develop new deposits? Finally, can Canada compete for the international exploration dollar, or will we witness an out-flow of Canadian and other capital to more promising parts of the world?

The Mines Ministers Conferences accomplished a great deal over the years. Much positive legislation, now incorporated into the Acts of the various Provinces, was developed through formal and informal discussions held during these meetings. Those who believe these annual conferences are obsolete should consider what lies ahead, and what can be done to keep our Provinces, and therefore our Country, strong and competitive with respect to mineral and energy resources. I am one who does not believe we will run out of resources. We have found the easy ones only and those which remain will be more difficult to locate and more costly to develop. All levels of Government must co-operate with those of you in the industry if the job is to be done.

To conclude, I wish you success in the meetings of your associations and technical committees. I hope your brief stay in New Brunswick is enjoyable and I look forward to meeting you during the next few days.

It now gives me pleasure to introduce Mr. Raymond Frenette, Councillor, City of Moncton, representing His Worship Mayor Wheeler.

## PLENARY SESSION

W.G. Brissenden  
President-Brunswick Mining and Smelting Corporation Limited

### "GOVERNMENT INDUSTRY COOPERATION IN MINERAL DEVELOPMENT"

31st Conference of Provincial Ministers of Mines  
October 6-8, 1974

Mr. Chairman:  
Ladies & Gentlemen:

The title of this panel discussion "Government Industry Cooperation in Mineral Development" portrays to me at least one of those attitude situations which exist today which urgently calls for open discussion.

I take the term mineral development to mean the further development of the mineral industry in the ten provinces of Canada and shall base my remarks on this particular interpretation of our panel theme.

As matters stand we do have in Canada a tremendous mineral industry, one that is world renowned for the great progress it has made in the last fifty years and for its efficiency in all sectors. The industry has been strong financially and has generally speaking, taken advantage of most of its technological opportunities and its growth opportunities and has extended itself further and further into the processing and secondary industry phases.

Such a record of achievement did not come about without active government encouragement and cooperation. We in industry are the first to recognize this. We also know that the effort required to bring a new mine into production or to build a new plant, great as it is, is as nothing compared to the effort required to generate the initiative and the inspiration to proceed in the first place. And, of course, we count on our political representatives having the courage on frequent occasions to remind the general public of this very basic fact.

A mineral resource is not a resource until it has been found, outlined and proven, until mining and processing methods have been worked out, and until the necessary financing for basic plant and allied facilities has been provided. People to staff and operate must also be engaged. There is nothing "natural" about the "natural" resources we currently exploit. They are very very unnatural.



The mineral industry is an intensely competitive industry, both nationally and internationally. Let us take the situation with copper as an example. Canadians mined 800,000 metric tons of copper in 1973, 10.8% of the world's total production of 7,300,000 metric tons.

In recent years great new sources of production have been developed outside of Canada, the Chileans and others are expanding their productive capacities and it is likely that by 1980 our share of the world's production of copper will have declined.

Unfortunately, many Canadians think that Canada is big enough in copper to be able to dictate its price and availability to the rest of the world. The facts simply don't support this view for copper, and for that matter, for many other metals as well.

One cannot discuss government-industry relationship in this year of 1974 without also referring to the "inflation" crisis. Many have railed away at us in industry because some of us have enjoyed a short period of inflated profits - as though they were going to last forever. On the other hand, very few people have pointed out that the payout to shareholders has increased only slightly, nothing like wages, for example, which have increased 15% in the past 12 months, nor anything like the costs of construction, which according to our own findings, increased 6.63% per month from February to June of this year. Industry knows it is in crisis and that it cannot afford, particularly at this time, to be snared into the current delusion about profits. Business is always a good scapegoat, but the stockmarket is reflecting what is really happening - the total valuation of Noranda, for example, being cut in half over the past 12 months. The costs of staying in business, investing in continued competitiveness, and to grow as we must are going up, and up. Only months ago, one of my associates estimated that new copper producing facilities would require 80 cent copper to be viable. Obviously, the price must now be higher, yet this morning copper was \$/lb. on the L.M.E.

I could cite you many other examples to support my statement that the mineral industry is in deep crisis due to inflation. However, suffice it to say that government-industry cooperation can only be effective if we understand one another and keep abreast of one another's problems. Government must learn more about business and industry must learn more about the needs of government. It has often been suggested that we should occasionally exchange experienced talent. I think this is a good idea and repeat the suggestion.

As I said in the beginning, government encouragement and cooperation with the mineral industry has created in Canada a great industry. In 1972 it accounted for 6.2% of the gross national product and 25.9% of Canada's exports. Provincial Mining Acts encouraged exploration, detailed the circumstances under which title to a mineral deposit could be obtained, and laid down the rules (including the provincial tax rates) under which mineral deposits could be worked. Through the years very few changes were made. Stability, i.e. a constancy in the rules, was the order of the day. Mine developers knew where they stood when they started, and they also knew they could rely upon a constancy in the rules.

For the purposes of this discussion, it is only necessary to say that this situation no longer applies. We are well into the era of the "politics of change" and obviously government-industry cooperation will be most difficult to achieve if this situation continues, and if so, further real progress in the industry can hardly be expected. It is not change itself that is so unsettling, it is the fear that the circumstances under which an investment is made will be unilaterally altered, after the event. Whatever changes are to be made should be made quickly but more than that, government should undertake as much as possible that none will be retroactive.

Studies are currently underway to decide what kind of an industry we want in this country. Many representatives of industry are working with government in this matter and we all are being provided with a great opportunity to exchange ideas and experiences. These studies inevitably bring up the question: "Do we really want a strong mineral industry" or in other words "Should we conserve our known resources for future generations and, of course, kill our exploration effort in the process".

An editorial I read recently in the San Francisco Chronicle may provide an answer to some of us.

#### "New Lubricant for the Scots"

Scotland, justifiably heralded for the ever-rising flow of its splendid alcoholic beverage, does not live by whisky alone.

It's a matter of record that her economy is in fact developing a new show of friskiness from another golden liquid. That, of course, would be North Sea oil.

"Not since the arrival of Bonnie Prince Charlie in 1745 has there been so much excitement in the Highland air. As the oil men move in, two centuries of decline and depression have come to an end and the population of the Highlands is rising for the first time in modern history. Jobs are there for the asking and undreamed of wage packets are available."

"Scotland is set fair to become one of the high growth, high income areas of western Europe during the next decade - something that has not been experienced in a very long time," banker Burke declared.

\* \* \* \* \*

It's marvellous what a new resource will do for a country. More important, when no resource industry exists, the resulting stagnation could last centuries.

Ladies and Gentlemen, whatever we do let us retain our initiative to explore and build. They are the most important natural resources that we have.

Thank you.

W.G. Brissenden



## 1974 MINES MINISTERS CONFERENCE

Panel Discussion - 9:30 a.m., October 8, 1974.

SUBJECT:

GOVERNMENT-INDUSTRY COOPERATION  
IN MINERAL DEVELOPMENT

SPEAKER

JOHN S. POYEN

Let me turn the subject matter around, because this is perhaps what most of us in this room are really concerned about, namely government involvement and its degree.

At the international level, of course, we have had a lesson in government involvement that is now threatening the entire industrialized world with an economic depression and destruction of our monetary system. On October 16, 1973, when the oil exporting countries of OPEC decided to take matters in their own hands and assume full control over prices and other basic policy decisions, the impact was to be felt far beyond the petroleum sector.

OPEC action abruptly ended the era of low-cost energy. It also marked the beginning of an income redistribution on a world scale never witnessed before. It brought about in Canada government action and involvement that poses a threat to the nation's oil self-sufficiency, unless it is soon changed to co-operative action.

Symbolic and fundamental changes had been evolving before and after that action in October 1973. We have seen further manifestation of these changes particularly in terms of increasing demands by oil producing countries and political entities - including our own Provinces of British Columbia, Alberta, Saskatchewan and the Federal Government - for a bigger share of government take in the fruits of the petroleum industry's activity, to finance our ever-increasing social and welfare commitments, and fund our government's ever-increasing costs of participating in the economy. The sophisticated propagandists have coined the phrase "fair share of the economic rent", but in my opinion this is nothing more than a high-sounding excuse for further moves towards statism.

I do not want to sound dogmatic about the extent to which government should be involved in the economy or our industry. There is a very definite place for it. I firmly believe, however, that the old argument is still very powerful, that government's place in our society is to act as a regulator, arbitrator and redistributor, but not as an operator. The government cannot be quarterbacking in a game for which it has written the rules and for which it provides the umpires and judges.



From time to time there will be a situation where government's role will have to go beyond traditional areas. But this should therefore be likewise transitional in nature. Unfortunately, and this is where my concern lies, the mechanics put into place to deal with a temporary situation, tend to become a permanent feature in practice.

In the oil industry we have heard a lot about the need for government-owned oil companies. All the arguments in favor of creating such vehicles are in my opinion nothing but intellectual fraud. Let me illustrate by referring to just one aspect. One of the arguments has been, that we need a "yardstick" to get and test unavailable inside industry data on which to base national energy policies; also a national oil company will stimulate competition. Have you ever seen itemized what precisely is the information which is not available to governments to develop proper energy policies? If it really was the case, what about a data-disclosure bill rather than putting \$500 million of the taxpayers hard-earned dollars into a high-risk business?

In recent weeks I have heard some disturbing statements from politicians that the real issue in the present resource-confrontation is confederation and not any particular resource industry. If the vitality of any industry is threatened in the process, too bad... I have often wondered what the public's stance would be if Canadians were to run short of gasoline or heating fuels as a result. Our vision seems terribly myopic or our recollections very short term, when we fail to recognize the contributions that the oil industry has made to Canada in the past twenty-five years, as transformed our country from a have-not-nation producing only 5% of its oil requirements to the point today where we are completely in balance as a nation in both the production, and the consumption of oil and gas. Have any of you stopped to consider what the economic drain would be on our nation if we were forced to buy 1,800,000 barrels of oil a day at present world price, and what would we have used as a substitute for the 3 billion cubic feet of gas that we consume every twenty-four hours.

I appreciate that finding new reserves or getting more production from established reserves is not as important to political management as the number of people employed, or what social programs have been or can be provided. However, I do not believe that such an attitude really serves the public interest, or more appropriately the consumer. We have a very vivid illustration of this in the United States where the warnings by industry were ignored by the politicians till the shortages began to hit. Predictably, industry was blamed for the entire situation. With proper cooperation between government and industry that could have been prevented or the blow could have been substantially lessened. Here we stand on the threshold of a bright future from an oil and gas resource potential. We have an industry which stands ready, willing, and able to risk its money, its manpower, its expertise,

its research, its hopes, and its intestinal fortitude in searching for hydrocarbons in our nation. Every encouragement should be given to motivate that industry in its continuing search for oil and gas reserves, but the cruelest anomaly is that our politicians are competing for greater and greater shares of the possible reward concerning themselves with catch-word phrases such as "give away regulations", "the rape of the Canadian economy", and "wind-fall profits".

Let me conclude with some suggestions where cooperation between government and the private sector should receive priority status.

A solution must be found to let the resource industry plan on a long-term basis despite the understandable short term planning horizon of our politicians based on their desire to stay in power. Governments must encourage the finding, development and production of new oil and gas reserves to assure the future viability of the Canadian economy and our standard of living - we must replace our presently depleting reserves. And governments must encourage the industry by a commitment of fair return and a recovery of finding and replacement costs - at present values, and with inflationary trends indexed to our costs and unproduced inventories of oil and gas. From an industry standpoint, profit is the name of the game - not exorbitant profit, but a return reflecting the standards of the international community within which we live; a reasonable profit - more important, use of the cash flow generated, for reinvestment or recycling into continuing exploration and development. If the bottom line of the profit and loss statement - the profit before tax is deemed too high - corporate taxes are the obvious disciplinarian.

There must be recognition that private capital is willing to do the job and can do it far better provided the rules are fair and clearly defined at the outset.

Recent events have confused the resource developer as to what taxes and royalty costs are or will be. The claims for economic rent have been such that no investor can make rational decisions.

There must be cooperation between taxing bodies to ensure that the total claims by government do not exceed the total surplus and that the investor is left with a reasonable expectation of profit.

Attempts to impose the will of government on industry without the support of legislation must be discontinued if a cooperative mood is to prevail. Mutual trust is the key to the most efficient achievement of national priorities.

I have deliberately avoided the norm of phrasing my remarks in diplomatic language. I took it that I was asked to participate in this panel to generate a lively discussion. I hope you'll prove me right in the next hour or so. Thank you.

John S. Poyen

PAUL LEPAGE

Sub-district Director United Steel Workers of America

GOVERNMENT-INDUSTRY CO-OPERATION  
IN MINERAL DEVELOPMENT

Government-industry co-operation in mineral development - the theme of our session here today, is a most appropriate and significant topic in light of recent developments relating to the mining industry in Canada.

Let us reflect a moment. Over the past year and one-half both government and industry had agreed upon and stressed the importance of co-operation in the development of our mineral resources for the benefit of all Canadians. The basis for this co-operation supposedly was to be the consensus on objectives for Canadian mineral policy developed through intensive federal-provincial consultation in the spring of 1973 and publically revealed on April 13th of that year.

Addressing your 1973 conference, the Honourable Donald Macdonald, federal Minister of Energy, Mines and Resources commented,

"The need for improved consultation has long been recognized by both levels of government and by industry...the interdependency of policies at both the federal and provincial levels of government dictates that we must continually strive to improve our consultative and co-ordinating mechanisms throughout the policy process...."

At the same conference, Mr. C. R. Elliott, President of the Mining Association of Canada concluded, "...Let me reiterate industry's concern and vital interest in developing sound long-term mineral policy objectives in line with changing patterns of our society and international market requirements. Let me re-emphasize that our Canadian mining expertise is a most valuable national asset which should be carefully nurtured, not dissipated, so that its exceptional capabilities can be harmonized with governments to maximize resource benefits for Canada. It is only through full cooperation that these benefits to the nation will be obtained."

The remarks by both speakers appear to be sincere offerings expressing real concern for government-industry cooperation in mineral development. Yet while cooperation may appear to be a common aim, in actual practice confrontation and conflict has been the rule, especially within the last year.



Full page advertisements by the Mining Association of Canada in daily newspapers and magazines exhorting "Does anybody out there give a damn if the mining industry is taxed to death" as well as campaigns in other media throughout the country are hardly models of cooperation in the best interests of Canadians. Yet they are a reality and seemingly a deliberate attempt to effect in a negative fashion and credibility of governments' operating with the interests of their respective citizens at heart.

The mining industry has gone to great pains to tell Canadians that "Jobs will be lost and mining communities as well as the secondary and manufacturing industries which depend upon mining will suffer severely unless governments - federal and provincial - end their squabble over tax revenues from the mining industry and reverse the trend towards increasing interference and management of the industry.

This obvious state of "un-cooperation" between industry and government in the field of mining is of particular concern to organized labour in general, and myself in particular, given the fact that the mining industry is heavily organized and for the most part by the United Steel Workers of America. But before discussing the merits of the arguments put forth by the mining industry and government-industry cooperation in mineral development, I wish to comment briefly on the industry itself.

The mining industry in Canada for many years has been the recipient of tax privileges denied to secondary manufacturing activity. This fact is acknowledged by the mining industry.

All governments recognized that mining had definite contributions to make to the Canadian economy. Consequently, early government mining taxation policy was geared with this in mind and legislation was drafted to give the industry the stimulus it needed.

As hoped for by governments throughout Canada, this taxation bias in favour of mining was successful in promoting mineral development. This in turn had the desired effect of creating jobs, new communities and new found financial benefits for all levels of government. But it also created new responsibilities for government as it was compelled to meet the community needs which appeared hand in hand with new resource developments.

It was only natural, therefore, that as the mining industry began to thrive, governments came to expect a return comparable to that derived from other industries in the interests of all Canadians. But this change of policy has only come

recently and for the most part has involved tax changes at the federal level only. And despite the federal government modifications to the special exemptions and other tax breaks enjoyed by the mining industry under the Income Tax Act, mining companies still retain substantial (and, in the opinion of many authorities, unjustified tax advantages vis-a-vis other corporate taxpayers.

At the provincial level, the returns to government from mining have been very low. Irreplaceable mineral resources have been mined and shipped out in the form of ore or concentrates so that not only has the tax revenue been sparse but the jobs involved and value added in the smelting, refining and further processing or fabrication of the metal have in too many cases been created in other regions and countries. There is thus not even the rationale of substantial indirect contributions to the provincial economy to justify the low level of direct revenue to the provincial governments.

Provincial government revenue from mines as a percent of value of production over the period 1961 to 1972 has been slightly to say the least, ranging anywhere from a low of 0.3 percent in New Brunswick in 1972 to a high of 3.7 per cent in Saskatchewan in 1964.

In the case of New Brunswick, revenue as a percent of value of production actually decreased from 1961 - 1972 dropping from 2.3 percent to 0.3 percent. Dollar wise, New Brunswick received \$204,000 in revenue from 1961 production valued at \$8.9 million and a mere \$323,000 from 1972 production valued at \$106 million.

In terms of revenue as a value of mineral production it can be seen that New Brunswick has faired very poorly over the years. Indeed whether or not any province is deriving a fair return from mining is questionable, given the superior profitability of that industry. A comparison of financial performance in major industrial sectors for the 1962-72 period reveals the following:

<u>Industry</u>	<u>Return to net worth (3)</u>
Mining (1) .....	12.9%
Manufacturing .....	9.7%
Wholesale & retail trade .....	10.0%
All industries (2) .....	10.1%

- Notes: (1) Metal mines and non-metal mines; coal mines included from 1970 forward;  
 (2) All industries except agriculture, fishing and trapping and construction;  
 (3) Profit after taxes as a percent of net worth of shareholders' equity.

Source: Statistics Canada, Industrial Corporations, various issues.

In other words, profitability in mining is:  
33.0% higher than in manufacturing;  
29.0% higher than in wholesale and retail trade;  
27.7% higher than the all industry average.

More recent data will likely indicate that the mining industry's profits have risen even further due to the dramatic increases in metal prices.

It is only right, therefore, that governments should take a new look at their mining tax statutory authority. Considering our mineral resources are non-renewable all governments have a responsibility to ensure that all Canadians derive maximum benefit from their development - to ensure the conservation of our environment and our non-renewable resources while maintaining an acceptable standard of living.

This must necessarily involve governments in taxation and royalties, but also in exploration, environmental control, transportation and marketing, job creation, labour relations and social planning. In short, we must have planned resource extraction and use consistent with the environmental, ecologic and economic needs of Canada and her citizens and not geared to a profit motive only.

There can be no doubt that this involves critical planning and decision-making on a coordinated level. But it should not take place in an isolated setting. Besides the responsible levels of government actively coordinating their efforts, consultation with industry, as well as labour, should be involved.

The Canadian mining industry has built up a wealth of expertise which government would do well to tap in developing mineral policies. By the same token, however, organized labour has a definite interest in mineral development and should also be heard from. And it is pleasing to note that this type of consultation has been taking place.

Bill 31 - The Mineral Royalties Act of British Columbia is but one example. Granted the consultation might not be to the extent desired by some interest groups, but nevertheless the views of the various interest segments have been invited.

The mining industry, both individually and as a whole, has been given and have utilized the forum of government hearings and the media to voice their position in detail on the proposed B.C. legislation. They have clearly outlined what they consider



to be negative aspects of the legislation, arguing that the supertax aspect of the bill is unfair and will hurt everybody resulting in lost jobs and a decline in mining investment in B.C.

Organized labour, through the U.S.W.A. have also expressed their views on the B.C. legislation and for the most part disagreed that jobs and investment would suffer if the legislation were adopted. Basically, the U.S.W.A. maintained that the proposed legislation would simply provide the people of British Columbia with a reasonable share of the value of their mineral resources.

Unlike the mining industry, the U.S.W.A. did not believe that the royalties suggested in Bill 31 were too high but rather that it would provide the people through their government a reasonable return, while at the same time allowing a generous return to the investors in the industry.

In its analysis of the legislation, the U.S.W.A. also acknowledged that the argument by the mining industry that Bill 31 allows too much uncertainty has some validity; at least as far as new mines are concerned. More specifically, it generally agreed that unless the basic value assigned minerals is calculated in a predictable manner, then debt capital could be harder for the mining industry to obtain.

Consultation, it can be seen by the foregoing, can and often does involve differences of opinion over the matter at hand. Government, however, having been given a mandate to act in the interests of the people must move to resolve the particular issue and make a final decision which will be in the best interests of the public.

It is here where cooperation comes into full play. Government, upon finally legislating on any matter, both legally and morally has a right to expect compliance with its decisions.

Government-industry cooperation in mineral development, therefore, must involve compliance with the law of the land in the final analysis. And industry while it may not cease to disagree with that law, must observe it.

Government-industry cooperation in mineral development can and should be developed in a host of areas other than those legislated by law though and rather than resorting to extreme pressure tactics, it should pursue these to its advantage.

Specifically, government and industry can work together to improve mineral exploration. Government services



providing the mining industry with basic geological, geo-chemical and geophysical information to guide and encourage exploration, while already extensive, could no doubt be further developed to ensure maximum efficiency and effectiveness in the employment of new exploration techniques.

The actual mining of mineral deposits is another area where government-industry cooperation should prove beneficial to both sides. The development of the requisite environmental controls, and transportation and marketing links can involve costly and time consuming research and experiment. If in close consultation, industry and government could turn seemingly uneconomic mineral deposits into economic ventures. Various government programs and agencies could be utilized to ensure among other things that anti-pollution equipment is effective, roads are developed, and freight rates are equitable.

Cooperation would also see the proper development of our remote mining communities in terms of better public services, housing, communication systems and transportation. This in turn would encourage labour stability and eliminate the heavy cost to the mining industry of excessive labour turnover.

But while cooperation is to be encouraged, both government and industry must bear in mind that in the final analysis mineral development must benefit the people. Accordingly, insofar as the smelting, refining and processing of mineral resources within Canada will benefit the public, it should be pursued. Likewise, if and when royalty or other mining tax changes are warranted in the minds of government - the representatives of the people, they should be instituted. Hopefully, though consultation will take place with industry before and after announced changes in mineral development policy. Should this prove to be the rule rather than the exception, industry-government cooperation may be more easily arrived at in the future.

A FEW RANDOM THOUGHTS  
ON GOVERNMENT-INDUSTRY RELATIONS  
IN THE CANADIAN MINERAL SECTOR

Jean-Paul Drolet  
Mining Engineer--Assistant Deputy Minister  
Department of Energy, Mines and Resources--Canada

Presented at the Provincial Mines Ministers Conference  
Moncton, N. B., October 6-9, 1974

One controversial aspect of resource development policy today is the relative roles to be played by the public and private sectors. Responsibility for the "public good" rests with government in its various forms, mainly federal and provincial. Every one of us is involved: whether we have been elected to conduct the destiny of our nation, or are concerned citizens exercising our rights in a democratic society.

We are, however, committed to a free enterprise system where it may happen that the "greater public good" does not always coincide exactly with the needs and aspirations of a particular sector of the private industry bent on pursuing a profitable course of industrial endeavour. In other words, the particular views on the alternatives offered for reaching some goals may differ.

We may try to portray our situation with a simple diagram; although I would stress that the words used in the various triangles do not refer to closed groups divorced from each other since, in some measure, there is a part of us in each group.



Government, labour, industry and academics are all pursuing their individual objectives around the fringes of a central goal which we can define as the "overall benefit and well-being of Canadians."

The present Canadian economic system arises from an historical evolution under free enterprise. Let me emphasize that over the years this method of distribution of responsibilities for resource development has brought very good results --as evidenced by the fact that we have one of the largest and most efficient mineral industries in the world. Nevertheless, recently our established system has come under increasing attack in the public debate over the responsibility for the management of the "national patrimony" and the ultimate goals we want to achieve through development of our natural resources. Extreme views on all sides have resulted at times in strained relationships which are leading to increasing confrontation between federal and provincial governments and with labour and industry.

In an increasingly resource-hungry world, Canada is in need of "co-ordinated resource management" in order to maximize overall benefits to the entire nation, both for the present and for the years to come.

Industry expects to continue to have its traditional free hand in developing natural resources. It is entitled to such expectations since it has done extremely well in the past, not only in terms of overall efficiency and profitability, but also as one of the major contributors to the national economy as a whole.

These results have been achieved under a legislative system and a political climate envied by many countries of the world and with the cooperation of a labour force which has established records for efficient productivity.

But the pressure of events and changing aspirations on the part of the various sectors involved have stirred up an acid public debate and confrontation over major issues in resource development. This debate, based more often on uninformed rhetoric than hard facts, has resulted in increasing polarization of group positions and increased the conflict between them. To state that we must improve communications--intelligent communications, that is--would be too elementary.

Since the subject of government-industry relations in Canada seems to present some difficulties, it may be interesting to have a quick look at other countries and see what we can learn about industry-government relations.

1. In the U.S.A. and other Western developed countries, we find more or less the same institutional developments that we have, since they are industrialized, affluent and similar in most respects to ourselves.



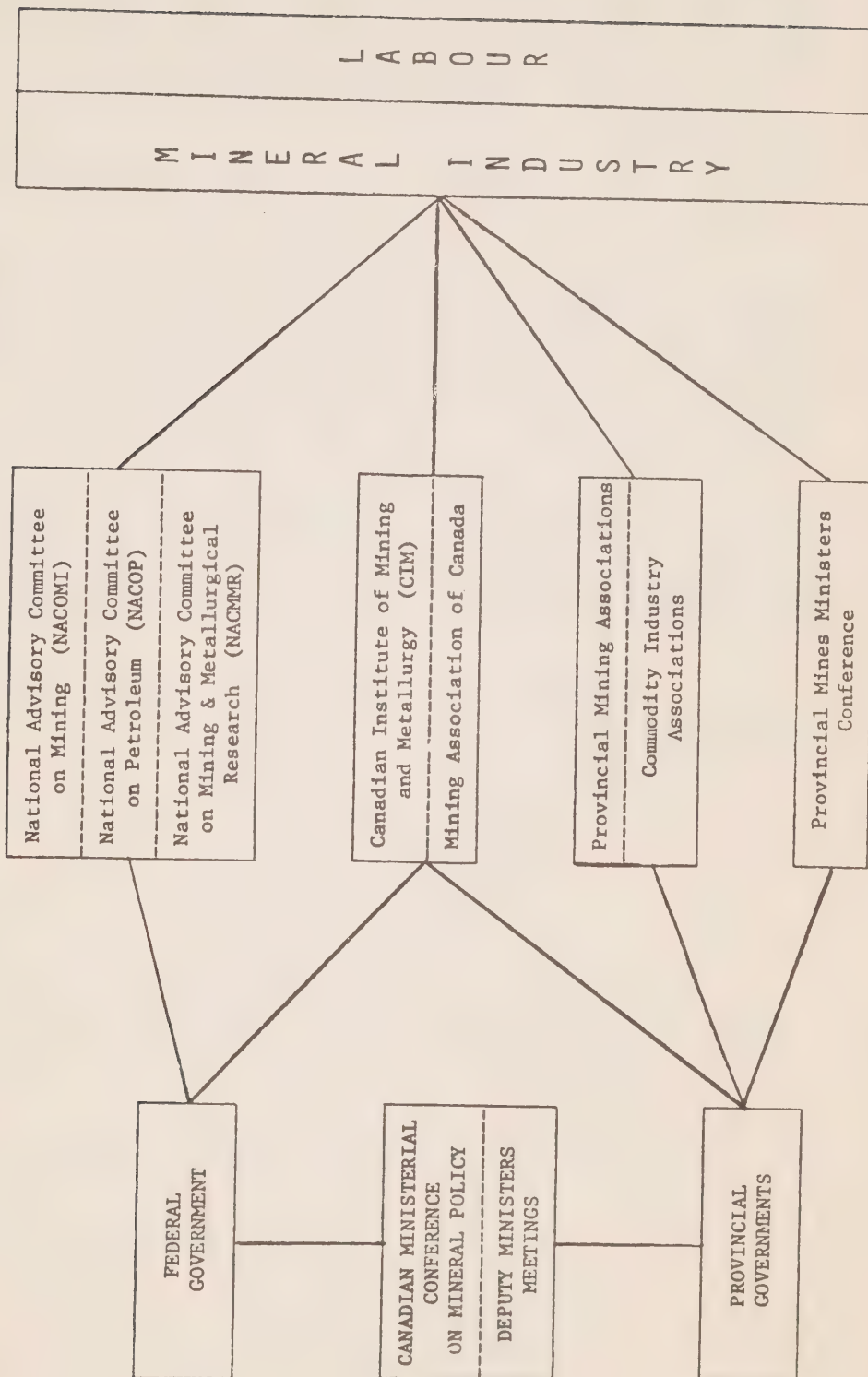
2. The Communist countries would appear to have less concern for relations between sectors of their society--but their system does not, by choice, represent a viable alternative for us in Canada. The same is true for other countries with a more or less similar authoritarian regime.
3. Special mention could be made of Japan which has some very interesting mechanisms for government-industry dialogue. As most of us know, the Japanese have an advantage in having only one major objective in protecting what has been described as "Japan Incorporated," and only one overriding issue to occupy their attention--a need for resources; therefore, they are less encumbered with the multitude of alternatives and opportunities such as we face in Canada. Nevertheless, the Japanese like to call themselves, "an industrialized democracy" and "a free-enterprise country." There may be something that we can learn from them.

Throughout their history, the Japanese have a tradition of close government/industry cooperation.

- Each industry has a powerful association: steel, non-ferrous metals, chemicals, etc. These are joined together in the Keidanren--which is about equivalent to a Canadian Manufacturers Association, only much more powerful.
- Both government and industry representatives work out their economic plans and policies and then meet together in the Economic Planning Agency to thrash out opposing views and reach a "consensus."
- Once plans are made and priorities set, both government and industry, through their respective machinery, work harmoniously together to reach a common goal.
- This system is certainly not without some weaknesses; for example, labour is hardly represented and this situation may cause some headaches in future, but the industry/government arrangement has had successes which are evident on the economic front, particularly in the development of their procurement strategies of raw materials from almost every country in the world. The reason for their success is an acceptance, and I stress the word "acceptance," of close consultations and relations between government and industry.

It would be wrong to say that the governments of Canada and industry do not consult each other, but we can say that they do not consult each other often enough on the right issues. When they do, there is a tendency for some to discuss their positions in the press and/or on television and in public briefs to government--this sometimes complicates reasoned discussion because it sets out positions which are not easy to moderate as new facts emerge.





When a corporation executive talks about low profits, someone else concurrently discourses on high returns. Consequently, political action may result from the belief (I insist, from the belief) that profit is excessive. This belief, which may be correct in certain instances, is fostered by a tendency to assume that greater returns should accrue to the owner of the resources--and there we go again in a long series of discussions and accusations.

For a minute, let's look at where and how we meet, at least officially, to discuss issues and policies.

We have some institutions (and we might as well admit that, while some are good, others are better)--but how far do they go? Should their roles be expanded? Should new efforts be made in defining the true purpose of the organizations and their willingness to offer informed ideas on our national objectives and the role that resources can play in attaining them in the context of the world environment in which Canada must grow?

I understand that the principal reason for the present meeting and for the discussion to follow is precisely to propose answers to some of these questions beyond the too simplistic conclusion that we need more and closer cooperation and exchanges of ideas between governments and industry.

The mineral industry is evidently concerned about the recent incursions of federal and provincial governments in areas such as:

- exploration and development;
- marketing;
- revenue sharing;
- royalties; and
- commodity pricing.

These are some of the areas into which the governments are compelled to step in response to the public political debate about our present and future resource development. Canadians at large are concerned about resources, how they are exploited and how they are used.

More and more, there is need for discussions between governments and industry. We need to discuss such matters as:

- foreign investment and ownership regulations;
- corporate investment and marketing links;
- GATT negotiations;
- environmental restrictions;
- government subsidies, incentives;
- higher degree of domestic processing;
- export taxes;
- international commodity arrangements;
- labour;
- sources of capital; and
- taxation.

Yes, finally I have mentioned taxation. I have kept it as my last example on purpose, I may also add, because I hope that our future discussions could be enlarged in scope and cover other major items that are of prime interest to Canadians.

All this points to increasing government involvement in the development of mineral policies. Therefore, there is an increasing need for more discussions between industry, government and labour towards an "acceptable consensus" on mineral development policies.

It is clear, Mr. Chairman, that I do not have any magic formula to offer on the relations between government and industry except perhaps to suggest a certain degree of prudence in not exaggerating the problem of our mutual relations. May I propose a more positive approach to those who seem to enjoy living in a constant atmosphere of confrontation?

Referring to the diagram (triangle) which indicates the interrelations of various groups, I consider that I belong to all groups: I live in a Canadian province, I work with a federal department of mines, I am associated with university work; I have worked for a provincial department of mines and for private mineral industry, and have been part of labour.

Therefore, I am more than willing to "sit at the table", as they say in labour negotiations, and talk. I can even do it in both languages, Mr. Chairman, and as you know, recent legislation tells me that every time I speak French, it is now official, in my native province at least.

Ottawa, September 1974.

COMMITTEE REPORTS,  
RECOMMENDATIONS  
AND  
RESPONSE BY THE MINISTERS



THIRTY-FIRST ANNUAL CONFERENCE

OF

PROVINCIAL MINISTERS OF MINES

HOTEL BEAUSÉJOUR

MONCTON, NEW BRUNSWICK, OCTOBER 6-8, 1974

On November 17, 1944 during the Annual Meeting of the Canadian Institute of Mining and Metallurgy in Vancouver, the late Allan A. MacKay arranged a meeting of the Ministers of Mines in attendance. This meeting was convened by the Honourable E. C. Carson, then Minister of Mines for British Columbia. The following year the first Annual Conference of the Provincial Ministers of Mines was held in Quebec City. Since that time Conferences have been held annually in provinces from east to west.

The meetings of the Ministers of Mines with government officials and industry representatives have resulted in unanimous agreement in resolving certain problems and have enabled the Ministers to approach Federal authorities with common purpose. They have also led to useful exchange of information and have enabled representatives to gain a new perspective of local problems. The spirit of friendly cooperation which has pervaded the meetings is an indication of their intangible values.

During the past several years there have been six separate committees under the framework of the Conference. For this year the Ministers considered it advisable to restructure and integrate the functions of the various committees. Accordingly at the 1974 Conference there were three committees, viz.:

Committee No. 1 - Technical

Technical aspects of the Mineral Industry in the fields of Exploration and Mining Operations.

Chairman	-	Dr. G. B. Mellon
Vice Chairman	-	Mr. J. G. Fredette

1. Exploration information and statistics.
2. Role of government in mineral exploration.
3. Role of government and industry in uranium exploration and development.
4. Status of sub-committees.

## Committee No. 2 - Financial and Statistical

Financing, Marketing, Royalties, Taxation, Tariffs, and Mineral Statistics.

Chairman	-	Mr. J. T. Cawley
Vice Chairman	-	Mr. G. Jewett

1. Review provincial legislation.
2. Provide (if possible) tax models illustrating existing federal and provincial taxation.
3. Discuss the rationale of Crown corporations in the extractive industries.
4. Receive the report of the sub-committee on mineral statistics.
5. Long-term planning and national energy policy.
6. Status of sub-committees.

## Committee No. 3 - Social

Problems pertaining to the environment, manpower, education, and other social matters.

Chairman	-	Mr. J. C. Smith
Vice Chairman	-	Mr. J. H. McKillop

1. Environmental regulations of federal and provincial governments respecting mining operations.
2. Land use planning and economic models for assessing the socio-economic impact of a proposed mineral development.
3. New legislation and regulations.
4. Extent of government-industry-labor communication in preparation of new legislation.
5. Manpower problems with emphasis on immigration regulations and manpower training.
6. Recruitment and retention of workers in isolated mining communities.
7. Status of sub-committees.

TO:

THE CHAIRMAN, COMMITTEE NO. 1,  
Thirty-first Annual Conference of the Provincial Ministers  
of Mines,  
Moncton, New Brunswick.

We are pleased to submit the attached report and Appendix A for your consideration. The report represents a consensus of opinion reached by representatives of the industry and the Task Force. While mutual agreement was reached on the content of the report, the Task Force recommends that full disclosure of exploration data should be the ultimate objective and strongly urges each Province:

- 1) to undertake full implementation of the Task Force report as quickly as possible, and
- 2) to continue to pursue ways and means of subsequently obtaining full disclosure of exploration data.

It is recommended that the Task Force be re-constituted as a subcommittee and that this subcommittee continue to provide to the Mines Ministers advice and counselling on legislative proposals dealing with mineral exploration in Canada. If matters relative to petroleum exploration are to be the responsibility of the subcommittee, then appropriate representatives of the petroleum sector should be appointed. Matters identified to date as requiring further study include:

- 1) problems dealing with airborne geophysical and geochemical surveys, and
- 2) periods of confidentiality for specific types of data.

Respectfully submitted,

A.F. Laurin, Chairman,  
Task Force on Submission of  
Exploration Data.

October 7, 1974.

## AMENDED APPENDIX A

### INFORMATION REQUIRED WITH RESPECT TO TYPES OF WORK TO BE SUBMITTED

#### 1. PROSPECTING

- (1) Map of appropriate scale showing in relation to topography and claim boundaries:
  - (a) Location of area prospected;
  - (b) Location of traverses;
  - (c) Outcrops examined and mineralization noted.
- (2) Report indicating name and address of person doing the work, dates on which work was done and any geological observations made.

#### 2. TRENCHING

- (1) Map at appropriate scale showing relation to topography and claim boundaries.
  - (a) Location of trenches;
  - (b) Dimensions of trenches;
  - (c) Plan of sampling indicating location of samples in trench.
- (2) Identified assay results of all samples.
- (3) Name and address of person who is in charge of the trenching.

#### 3. GROUND AND UNDERGROUND SURVEYS

- (1) With respect to all types of surveys, maps and reports indicating, if obtained:
  - (a) Location of survey, survey grid lines, and underground workings with respect to topography and claim boundaries;
  - (b) Geodesic and base stations, reference, control, and tie-in points;
  - (c) Survey method and procedure, type of instruments, components measured, sensitivity, precision and scale constant of instruments;
  - (d) Units measured, values, determinations and other basic numerical data obtained corrected and plotted at an appropriate scale as profiles, contours, zones of variation, anomalies, geological boundaries, etc;



- (e) Other pertinent data such as topography overburden cover, drainage and ground water, results of prior work and of other surveys or observations;
  - (f) Date on which work was done and names of all contractors.
- (2) With respect to geochemical surveys the following additional information is required:
- Nature of soil horizons and unconsolidated sediments observed and sampled (species and parts of plants observed in biogeochemical surveys, period and depth of sampling, samples preparation, methods of analysis and name of laboratory.
- (3) With respect to geological surveys the following additional information is required:
- Outline of outcrops, nature and attitudes of the various rock types exposed, textural and metamorphic features, geologic structures and mineralization observed.

#### 4. DRILLING

- (a) Map (scale: 1,000 ft. to the inch or other appropriate scale showing collar location and horizontal projection, azimuth and dip of each hole;
- (b) Complete drill core logs with assay results;
- (c) Size of core;
- (d) Location of core;
- (e) Name and address of the geologist or person logging core;
- (f) Name of the drilling contractor;
- (g) Name of the assay lab;
- (h) Drill sections, if available;
- (i) Purpose of drilling.

\*All maps, plans, etc. referred to in 1 to 4 should be transparencies in reproducible form with keyed legend.

Quebec, August 9, 1974.

To:

MESSRS. FREDETTE & GILBERT, CO-CHAIRMEN OF COMMITTEE No. 1  
Provincial Mines Ministers Conference  
ad hoc Subcommittee (Task Force) on  
Submission of Exploration Work Data.

The industry representatives invited to attend the August 8th - 9th 1974 Task Force meeting in Quebec City appreciate the opportunity thus provided to comment on the Report of the Task Force on the Submission of Exploration Data.

The Task Force Report and accompanying Appendix A, together with written comments submitted by industry thereon, were discussed at length with the Task Force Committee on August 8th.

The discussions clarified and substantiated industry objections to the contents of the report. Industry objections are based mainly on resistance to full submission of exploration data for the necessary and valid requirement of confidentiality of information for business purposes - and of secondary importance, the utilization of data - costly to obtain - for bargaining and trading purposes.

However, the industry representatives fully sympathize with the long-range Task Force objectives of obtaining exploration data for the future public good.

On conclusion of the above-mentioned discussions, it is the industry representatives view that a consensus of opinion was reached between industry and Task Force representatives that the following recommendations would be acceptable to all parties as a compromise and should be tabled as recommendations at the forth-coming October 1974 Mines Ministers Conference in Moncton.

1. In the following - the term data refers in excess of that submitted for assessment credit purposes.

2. With respect to surface and underground exploration work completed on Crown Lands held under mineral title other than lease or patent, the following information must be provided as in index which shall be filed with the applicable Provincial Government agency within one year of completion of that work.

A. Prospecting or Trenching

Location

Type of work (Prospecting or Trenching)

Date of completion of work  
Name and address of person who did the work  
Name and address of person or company carrying  
out the work.

B. Geological Survey

Location  
Mapping scale  
Date of completion of work  
Name and address of person who did the work  
Name and address of person or company for whom  
work was carried out.

C. Ground Geophysical Survey

Location  
Type of instrument used  
Line spacing  
Date of completion of work  
Name and address of person who did the work  
Name and address of person or company for whom  
work was carried out.

D. Ground Geochemical Survey

Location  
Nature of material sampled  
Sample interval  
Date of completion of work  
Name and address of person who did the work  
Name and address of person or company for whom  
work was carried out.

E. Drilling

Location  
Depth of hole  
Depth of overburden  
Direction of hole  
Dip of hole  
Location of core (if any)  
Date of hole completion  
Name and address of person who did the work  
Name and address of person or company for whom  
hole drilled.

NOTE - The above A to E inclusive - does not apply  
to work done on Crown Lands that are not held by  
Mineral Title.

3. With respect to surface and underground exploration  
work carried out on Crown Lands held under mineral title other

than lease or patent, that revert to the Crown, - detailed data as itemized in the amended Appendix A attached shall be provided to the authorized Provincial Government agency within a period of one year of termination of mineral title.

4. Within one year of completion of an airborne geophysical or geochemical survey, an index shall be filed with the appropriate Provincial Government agency which will consist of

- Location of survey
- Flight path location map showing identifiable surface features
- Instruments used
- Nominal terrain clearance
- Date of completion of survey
- Name and address of person or contractor carrying out the work
- Name and address of person or company for whom survey flown.

5. No index or other exploration information shall be required by regulation or any leased or patented properties other than what is required under the respective Provincial regulations.

6. All exploration and development data on leased or patented land that reverts to the Crown shall be retained and be made available to the authorized Provincial Government agency for examination and/or duplication for a period of one year.

7. The respective Provincial Governments may wish to consider the provision of incentives to encourage voluntary submission of full data as listed in amended Appendix A attached, prior to date required.

8. Any regulation or regulations that come into effect as a result of the Subcommittee's (Task Force) reports shall not be retroactive.

This forms a consensus of the recommendations as agreed at a joint meeting of the Task Force (Committee No. 2) and the representatives of the Industry held in Quebec City on August 8 and 9, 1974.

A.F. Laurin, Chairman.



COMMITTEE NO. 1

MINUTES OF CHIEF INSPECTORS MEETING

APRIL 21, 1974

Present

R.W. Warren	L.G. Tanguay
J.W. Peck	J.R. Alderman
M. Aschacker	S. Homulos
R.H. Glassford	H. Zorychta
J. Hughes	

The following points were discussed:

1. Standard Reporting of Accidents

There is a need across Canada to standardize the statistical reporting of accidents so that comparisons can be made. There should be a classification of operations as well as a classification of accidents.

In most jurisdictions, Compensation Boards report more accidents than actually occur. It is suggested that prior to the next meeting, each province report how they obtain accident statistics. Should recommend to the Mines Ministers that Mining accident statistical reporting be included on the agenda and possibly design a standard reporting form for all of Canada.

2. Static Protection in Tape Fuse

Tape fuses were made with a conductive coating to prevent static electricity from running down the core thus resulting in a premature blast. However, this type of fuse has been discontinued and both C.I.I. and Dupont are now making up capped fuse with a staple to discharge any static electricity, produced by blowing prills, through the metal casing of the cap rather than through the charge in the cap itself. However, anyone making up their own capped fuses do not have this protection. Mr. Fraser, Chief Inspector of Explosives, can only recall one premature blasting incident that may be attributed to this within the past 10 years. Maybe we do not have a problem. Further research is required.

3. Fume Classification of Explosives

Is it important? British Columbia have dropped fume classification. Contacted Joe Fraser in this respect who will submit a report for the next meeting. Joe Fraser should receive an invitation to the Chief Inspectors meeting.

4. What Limit to High Walls in Open Pits

Discussions on limit of height of pit walls in open pits. No one had much concrete to add and it was the consensus that each pit must be based on its own merits. Everyone agreed at this stage to stay away from set rules. It was also suggested to get in touch with Dr. Coates. Mr. Homulos did get in touch with Dr. Coates who informed him that a preliminary report would be available in 1975, which could be used as guidelines for companies and inspectors. Dr. Coates suggested that he would be prepared to have one of his group attend our next meeting to give a verbal report on the progress his group is making on this project. Dr. Coates should receive an invitation to our next meeting.

5. Employment of Women

In British Columbia, the control of Employment of Women underground is with the Chief Inspector of Mines. Each jurisdiction is to report how many women are working underground and in what categories. Further discussion at the next meeting.

6. Report on Canada Mining and Aggregate Equipment Exhibition

It was concluded that Vic Dawson's report was an extremely good report. We should follow this up and present the report to the Mines Ministers after review by each jurisdiction. Vic Dawson to contact Louis Tanguay to dress up the report. Neil's comments were good. This could be the basis for regulations pertaining to mining equipment and would be of great assistance to manufacturers and the industry since they would know the requirements. Follow up at next meeting.

7. Transmittal of General Information on Odd or Unusual Occurrences by each Province to the Others

It was the general consensus that this is a good idea and we should have more of it. Company names to be left out of the reports.

8. Ventilation Requirements for Use at Diesel Equipment Underground

British Columbia uses U.S. Bureau of Mines Standards. Most jurisdictions use 150 cfm per brake horse power. We should

attempt to obtain standardization in Canada. There is a laboratory in Ottawa for the approval of diesel equipment which should be utilized more. There was some discussion on the effectiveness of water and catalytic scrubbers. In this regard, Mr. Homulos contacted Mr. Dainty of EMR who is doing considerable research on scrubbers and it might well be that Mr. Dainty could supply considerable information on this aspect of diesel use if he was invited to attend the next meeting.

9. Safety Guards for Diamond Drill Feed Screws

Louis Tanguay reported that his province has had two fatalities where clothing got caught in the feed screws and he instructed companies to design and use a suitable guard. The estimated cost was \$150.00. Louis Tanguay is to give the committee his recommendations.

10. New B.C. Regulations requiring Fire Resistant Hydraulic Fluids for Underground Diesel Equipment

Bill Peck was to supply comments and specifications.

S. Homulos.

# FEDERAL-PROVINCIAL URANIUM RECONNAISSANCE PROGRAM

Discussion Meeting, 30 September, 1974, 9:30 a.m.  
Room 204, 601 Booth Street, Ottawa.

## AGENDA

### INTRODUCTION

#### GENERAL OUTLINE:

- Objectives of program
- Philosophy
- Precedent
- End-products and by-products

#### METHODS:

- Applicability by region
  - Shield
  - Cordillera
  - Maritimes
  - Prairies
- Supplementary sensors or analyses

### LUNCH

#### IMPLEMENTATION:

- Federal and Provincial priorities
- Available funding, duration of program
- Relation to other programs
- Formal Federal-Provincial Agreements
- Contract letting - length of contracts
- Contractor's lead-time
- Scheduling of work, delineation of areas
- Liaison

#### ANY ADDITIONAL ITEMS

A. G. Darnley,  
Geological Survey of Canada



FEDERAL-PROVINCIAL URANIUM RECONNAISSANCE PROGRAM MEETING

Monday, September 30, 1974, 601 Booth Street, Ottawa

GEOLOGICAL SURVEY OF CANADA	Dr. D. J. McLaren Dr. A. G. Darnley Dr. K. A. Richardson Dr. E. M. Cameron Dr. R. G. Garrett Dr. H. W. Little Mr. E. E. Ready Mr. Q. Bristow Mr. L. S. Collett Mr. W. Dyck Mr. E. H. W. Hornbrook
DEPT. INDIAN & NORTHERN AFFAIRS	Mr. Ab Oliver
DEPT. SUPPLY & SERVICES	Mr. Alec Bishop Dr. A. G. Agarwal
BRITISH COLUMBIA	Dr. A. Sutherland-Brown
ALBERTA	Dr. John D. Godfrey
SASKATCHEWAN	Dr. Les Beck
MANITOBA	Dr. John Stephenson Mr. R. F. Jon Scoates
ONTARIO	Dr. K. D. Card Mr. R. Barlow Mr. J. A. Robertson
QUEBEC	Dr. A. Laurin Dr. A. Nadeau
NEW BRUNSWICK	Mr. Dallas Davis Mr. Donald Gemmell
NOVA SCOTIA	Mr. J. C. Smith Mr. A. Chaterjee
PRINCE EDWARD ISLAND	Mr. R. Betcher
NEWFOUNDLAND	Dr. John Fleming

DEPT. OF MINES - MEMORANDUM  
To: Deputy Minister of Mines  
From: J. C. Smith - Nova Scotia  
October 4, 1974.

RE: URANIUM RECONNAISSANCE PROGRAM

The Geological Survey of Canada has proposed a reconnaissance airborne radiometric and geochemical program for Canada.

The program would be similar to the successful aeromagnetic program which was cost shared 50-50% between Canada and the Provinces.

A meeting of Provincial officials was held in Ottawa on September 30 to discuss details of survey.

Ottawa would like an indication from the Provinces of their interest in participation.

Dr. C. H. Smith, A.D.M. and Dr. A. Darnley, Chief of Geophysics, are at the Mines Ministers Conference and are prepared to brief the Deputies if desired.

You will be aware that in January of this year, Hon. Donald Macdonald announced that the Federal government proposed to initiate an expanded technical program to assist uranium exploration in Canada. In order to have the option of commencing a program in 1975, it is necessary that discussions should take place as soon as possible with interested provinces so that specific budget proposals can be made and contract arrangements commenced.

The Department of Energy, Mines and Resources is prepared to develop a new joint Federal-Provincial Program modelled upon the very successful Federal-Provincial Aeromagnetic Program which, of course, terminated several years ago in most provinces. The Aeromagnetic Program established a national data gathering system for one particular geophysical parameter, employing commercial contractors working to consistent, high technical specifications. As you know, it was beneficial to the mining industry, to the survey contractors and to governments, and has since been copied overseas.

The Uranium Reconnaissance Program which is primarily designed to encourage exploration is based upon two reconnaissance survey techniques: high sensitivity airborne gamma-ray spectrometry, and regional geochemistry. We regard these two

techniques as complementary, and if sufficient funding were available we would recommend doing both in order to maximize the probability of finding all potential target areas. However, Federal funding is now insufficient to contemplate covering any area with both methods under the proposed Federal-Provincial Program except in special circumstances. We are, therefore, making the following recommendations. Airborne gamma-ray spectrometry should be employed in areas of relatively flat topography with some outcrop and generally thin overburden: for reconnaissance purposes the line spacing would be 5 kms; this effectively samples about 7.5% of the land surface. Regional geochemistry with sampling at a spacing not greater than 1 per 25 square kms should be employed in mountainous areas, and areas with extensive overburden. Hydrogeochemistry of sub-surface waters is recommended for areas of flat-lying sediments or thick overburden.

The reasons for carrying out these reconnaissance investigations are as follows:

- (1) to provide high quality data to stimulate new exploration efforts by small and medium sized companies who cannot afford to acquire such starting information for themselves;
- (2) to ensure no potential uranium resource areas have been overlooked, bearing in mind the fact that a several-fold reduction in present ore-grades will become acceptable within ten years;
- (3) to provide a consistent national standard against which past company exploration work can be compared and judged as to quality and effectiveness;
- (4) to avoid needless repetition of exploration work; industry and government funds are too scarce to encourage duplication; they are better spent doing a good job once than a poor job several times over;
- (5) to provide national systematic coverage which can be used in conjunction with other geoscience data to improve knowledge about mineralization and regional geology in general;
- (6) to provide quantitative data relating to uranium distribution by area, which in the light of research projects now being undertaken can be of substantial assistance in providing improved uranium resource estimates.

As an indication of the extent to which significant features may have been overlooked in the past, I would cite the discovery in 1972 of uranium mineralization in the Ordovician March formation only 15 miles from the centre of Ottawa. This



discovery, by airborne gamma-ray spectrometry, has led in turn to the discovery of copper mineralization in the same vicinity. Both were previously unsuspected in this area. The radiometric work EMR has carried out on a shared-cost experimental basis in Quebec and Saskatchewan, within areas previously flown with low sensitivity systems, has led to considerable staking and subsequent drilling of hitherto disregarded or unknown anomalies, resulting in finds of uranium mineralization.

We would like to emphasize the fact that practically all the airborne radiometric work undertaken commercially up to now has been carried out with low sensitivity equipment, which is unsuited for either applying desirable corrections to the data, or for providing a reliable indication of the relative concentration of uranium. Work has been carried out only on an arbitrary, qualitative basis. Similarly the geochemical work which has been carried out by industry has also been of an isolated nature, with no controls to link work in different areas and so enable relative potential to be assessed, or to check reliability.

With the above outline of our intentions, we would like to receive an indication of the interest of each province in the proposed Uranium Reconnaissance Program and the possible level of funding available to match a Federal contribution. Depending upon whether all provinces wish to participate, and on the amounts of money available, a system of apportioning the Federal funds may have to be devised proportional to the supposed uranium potential of different areas of the country. The long-term intention is that eventually all areas of the country, for which suitable methods of investigation exist, including the Territories will be covered at the reconnaissance level. Initially it seems reasonable to consider a five-year program for each province. It is only when the level of interest has been indicated by the Provinces that we can start to work out the details.

In order to facilitate consideration of the problems and the technical options available, I would like to suggest that your technical staff contact Dr. A. G. Darnley, Chief, Resource Geophysics and Geochemistry Division, Geological Survey of Canada, who is responsible for the proposed Program. We are planning to hold a technical briefing session in Ottawa early in September and Dr. Darnley should be advised of your interest in attending.

In conclusion, we would appreciate an early indication of your Province's desire to participate, whether you wish to commence activity next year, and the funds you might allocate



to it over a period of several years.

Yours truly,

ORIGINAL SIGNED BY  
G. M. MacNabb

August 16, 1974.

September 26, 1974

## URANIUM RECONNAISSANCE PROGRAM

### PROBLEM

1. The demand for uranium, both domestically and for export, is beginning to grow rapidly. Recent forecasts show that total world demand will outstrip production capacity from present producers in the early 1980's and possibly by 1980.
2. On average it takes eight years from the date of discovery to bring a major new mine into production. Discoveries made in 1975 will probably not be productive before 1983.
3. For a variety of reasons, exploration for uranium in Canada over the last five years has not been as vigorous as the approaching demand-situation warrants.
4. In order to make a reliable appraisal of Canada's uranium resources it is necessary to have consistent systematic data of the type that can be obtained from modern exploration programs. Consistent data is not available from past exploration conducted by the mining industry.

### OBJECTIVE

1. To provide for industry high quality reconnaissance exploration data to indicate areas where there is the greatest probability of finding new uranium deposits.
2. To provide for government nationally consistent systematic data to serve as a basis for uranium resource appraisal.

### BACKGROUND

1. Much of the more accessible area of the country has undergone exploration for uranium by industry during the 1950's, and during the late 60's. Diverse methods have been employed, and have ranged through the full spectrum of effectiveness. In the most favoured areas there has been considerable duplication of effort, without necessarily increasing thoroughness. Airborne radiometric surveys flown in Canada prior to 1967 can be almost totally discounted in terms of exploration effectiveness because equipment lacked sensitivity and lacked the ability to separate anomalies caused by uranium from those caused by thorium and potassium. Even since 1967 too many airborne radiometric surveys are known to have been flown with equipment which due to lack of sensitivity, poor design, or incorrect installation was capable of finding significant anomalies only in very favourable circumstances. In a national sense it is surely inefficient to

encourage the repeated use of substandard exploration techniques. Whilst unconventional approaches and speculative hunches may, and sometimes do, pay off in exploration there is no justification for the employment of anything but the best in standard techniques.

2. The Federal-Provincial Aeromagnetic Program which was instituted in 1961 and got under way in 1962 is a clear cut example of the value of establishing a national geophysical data gathering scheme with consistent high technical standards. Expenditures on the program which total less than \$20 M to date have been repaid many times over in terms of direct mineral discoveries, and indirect assistance to other exploration activities. It should be pointed out that this Federal-Provincial Program was preceded by more than ten years of limited aeromagnetic surveys conducted solely by the Federal Government.

3. The Department of Energy, Mines and Resources, through the Geological Survey of Canada, has had a long connection with uranium geology in Canada and has played a key role in several important technological developments, from the 1930's onward; these include one of the earliest Geiger counters for field use (1935); the first systematic analysis of lake waters for uranium content (1960); the first modern field portable gamma-ray spectrometer (1965); the first field-portable radon-in-water meter (1968); the first high sensitivity airborne gamma-ray spectrometry survey (1969); the first large scale lake sediment geochemical survey (1972). As a consequence of these and other activities GSC scientists have been called upon to contribute definitive articles to the current authoritative text books on the subject; Uranium Prospecting Handbook (NATO), and Uranium Exploration Methods (I.A.E.A.).

4. GSC's work in gamma-ray spectrometry dates back to 1958. Through progressive experimentation, commencing in the laboratory, leading through field trials with a helicopter, GSC has developed a reliable effective and productive high sensitivity gamma-ray spectrometer system which has flown regularly on experimental surveys, commencing in 1969.

#### FACTORS

1. Uranium can be located by its radioactivity, and by direct chemical analysis.

2. The property of radioactivity enables it to be located at a distance i.e. from a low flying aircraft, but its radioactivity is reduced to negligible amounts by 12 inches of soil or water, or a few feet of snow. Fortunately if uranium is present in near surface rocks, sufficient is generally dispersed into surface materials for them to exhibit measurable radioactivity. For this reason airborne radiometric surveys, if

carried out with proper equipment, are a viable technique over most of the Canadian Shield and adjoining relatively flat areas where overburden is thin.

3. Extensive airborne radiometric surveys are impracticable in mountainous areas because the requirement to keep the aircraft close to the ground requires that a helicopter be used. This introduces, when all factors are taken into account, a several fold cost increase.

4. Geochemistry has proved to be the most cost-effective reconnaissance method in mountainous areas and in areas with thick overburden. Insofar as different parameters are being measured in radiometric and geochemical surveys, the use of the two methods together provides greater probability that no significant mineralization is overlooked, and facilitates the exact location of mineral occurrences.

5. In areas where the potential uranium bearing rocks are flat-lying and very poorly exposed, and the uranium horizon is at some distance below the surface, the only economical reconnaissance technique is to measure the uranium content of subsurface waters. The water samples can be obtained from deep wells where available, natural springs, or by drilling specifically for the purpose.

6. Various GSC projects relating to uranium conducted in recent years have resulted in unexpected finds of anomalous concentrations of uranium which have led to industry exploration activity in the vicinity (e.g. Sussex area of New Brunswick, Mont Laurier area, Quebec, several areas in Saskatchewan and the Northwest Territories). In most examples the level of industry follow-up expenditure has so far been too low to provide or disprove conclusively the presence of any economically interesting targets. However, the fact that uranium has been found to be concentrated in unexpected places justifies the value and timeliness of a systematic reconnaissance program.

#### RECOMMENDATIONS

1. There should be a joint Federal-Provincial program; planned, supervised and executed in a manner analogous to the Federal-Provincial Aeromagnetic Program, to carry out the following technical activities:

- (a) Airborne gamma-ray spectrometry using high sensitivity equipment is recommended for use in areas of relatively flat topography, where there is some outcrop and generally thin overburden. Relatively flat topography is defined as occurring when maximum relief does not exceed 800 feet, or



gradients do not exceed 3°. Line spacing for this program will normally be 5 km (3.125 miles).

- (b) Regional Geochemistry based on lake sediment analysis, or lithogeochemical analysis of selected rock types is recommended for use in mountainous areas, in areas where there is reason to believe pathfinder elements may be more readily traced than uranium itself. Sample spacing will normally be in the range 1 per 12.5 km<sup>2</sup> to 1 per 25 km<sup>2</sup> (1 per 5 to 10 square miles).
- (c) Hydrogeochemistry is recommended for analysis of subsurface waters in aquifers, in order to detect uraniferous horizons in flat lying sediments, or beneath thick overburden. Analysis of surface waters may supplement (b) above.

2. The Federal Government will be responsible through EMR and GSC in consultation with the Provinces, for designing and administering the contracts, which will be executed by competent survey contractors.

3. GSC will be responsible for conducting limited airborne and ground pilot studies ahead of contracted operations, in order to verify the suitability of areas for the available methods, and provide preliminary control data.

4. Results will be published as rapidly as they can be compiled. They will be released simultaneously by the Federal and Provincial authorities, according to a pre-arranged schedule.

5. In order to monitor the effectiveness of the program, GSC in conjunction with Provincial agencies will undertake on a continuing basis a limited number of comprehensive follow-up investigations to aid in the development of methodology for interpretation of results, and utilization as part of the Uranium Resource Appraisal program.

## APPENDICES

A. Preliminary proposal of costs, by region.

B. Program management.

SUMMARY OF PROPOSED EXPENDITURES  
URANIUM RECONNAISSANCE PROGRAM

Cost of program during years 1 to 10.....	\$18,220 K
Less: provincial contribution during same period..	6,735 K
	<hr/>
Federal Government share (EMR 10 years).....	11,485 K
Total cost of contracted radiometric surveys (2M sq. miles) (10 years).....	9,900 K
Total cost of contracted geochemical surveys (830K sq. mi.) (10 years).....	8,300 K
Cost of GSC orientation and follow-up surveys, laboratory control and interpretation, related R. & D. management and inspection estimated over 10 yrs. ....	10,000 K

Cost to provinces:  
half-share of combined radiometric & geochemical surveys

British Columbia .....	\$925,000
Alberta .....	775,000
Saskatchewan .....	625,000
Manitoba .....	750,000
Ontario .....	1,000,000
Quebec .....	1,750,000
New Brunswick .....	137,500
Prince Edward Island .....	10,000
Nova Scotia .....	112,500
Newfoundland & Labrador .....	<u>650,000</u>
	\$6,735,000

## URANIUM RECONNAISSANCE PROGRAM

## Costs by region — preliminary proposal

## AIRBORNE RADIOACTIVITY SURVEYS

	Total Area (Sq. miles)	Possible survey area (Sq. miles)	Reconnaissance line miles	Estimated Contract cost (\$)	Province half-share (\$)
British Columbia .....	366,255	nil	nil	nil	nil
Alberta .....	255,285	30,000	10,000	250,000	125,000
Saskatchewan .....	251,700	100,000	30,000	750,000	375,000
Manitoba .....	251,000	200,000	40,000	1,000,000	500,000
Ontario .....	412,582	270,000	60,000	1,500,000	750,000
Quebec .....	594,860	550,000	120,000	3,000,000	1,500,000
New Brunswick .....	28,354	10,000	3,000	75,000	37,500
Prince Edward Is. ....	2,184	nil	nil	nil	nil
Nova Scotia .....	21,425	10,000	3,000	75,000	37,500
Newfoundland & Labrador ..	156,185	60,000	20,000	500,000	250,000
Territories					
(mainland) .....		450,000	100,000	2,500,000	—
(islands) .....	1,511,979	350,000	10,000	250,000	—
<b>Totals</b> ..	3,351,809	2,030,000	396,000	9,900,000	3,575,000

Notes: 1. An average cost of \$25 per line mile has been estimated for flying — compilation.

2. An absolute minimum of 10 aircraft seasons will be required for completion, but for reliability it is recommended two aircraft should be mobilized for a part season each year.

3. Minimum period to complete this portion of program is 10 years if total outlay is held at \$1M per year (1974 prices).

## URANIUM RECONNAISSANCE PROGRAM

### Costs by region — preliminary proposal

#### GEOCHEMICAL SURVEYS

	Total Area (Sq. miles)	Survey area (Sq. miles) approx.	Contract Cost (\$)	Provincial Half-share (\$)
British Columbia .....	366,255	185,000	1,850,000	925,000
Alberta .....	255,285	130,000	1,300,000	650,000
Saskatchewan .....	251,700	50,000	500,000	250,000
Manitoba .....	251,000	50,000	500,000	250,000
Ontario .....	412,582	50,000	500,000	250,000
Québec .....	594,860	50,000	500,000	250,000
New Brunswick .....	28,354	20,000	200,000	100,000
Prince Edward Island .....	2,184	2,000	20,000	10,000
Nova Scotia .....	21,425	15,000	150,000	75,000
Newfoundland & Labrador .....	156,185	80,000	800,000	400,000
Territories:				
(mainland) .....		400,000	4,000,000	—
(islands) .....	1,511,979	250,000	3,750,000	—
<b>Totals</b>	<b>3,851,809</b>	<b>1,282,000</b>	<b>14,070,000</b>	<b>3,160,000</b>

- Notes:
1. Different types of geochemical survey will be involved in different areas.
  2. Average unit cost is \$10.00 per square mile, except Arctic Islands where costs will be 50% greater.
  3. Estimate 50 party-seasons are required for completion.
  4. If rate of funding is \$800,000 per year in total, all provincial areas plus half of mainland Territories area will be covered in 10 years. If funding for territories is restricted to EMR contribution, a further five years will be required for completion.



PROGRAM MANAGEMENT

It is proposed that the main features of the Federal-Provincial Aeromagnetic Program will be retained for the Uranium Reconnaissance Program, for both the airborne radiometric and geochemical surveys.

An Agreement between the Federal Government and each Provincial Government, signed by the respective Ministers, is required, stipulating the type of survey to be carried out, over what period, at what cost and by whom. A copy of the relevant contract is attached to the Agreement as an annexe. The contract, in turn, is based on a very detailed specification prepared by the Geological Survey of Canada, in consultation with the provincial agency concerned. Specifications will relate to equipment and practices established by the Geological Survey of Canada over several years of R & D and operational use.

The Geological Survey of Canada in consultation with the relevant provincial agency carries out any preliminary work, which may include field orientation surveys, prior to preparing specifications. Calls for tenders, their evaluation and appropriate recommendations are carried out by GSC (with the involvement of Department of Supply and Services). Monitoring of contractors' work at all stages, from calibration of equipment through execution, to compilation and publication of data is carried out by GSC.

As a consequence of experience with the Aeromagnetic Program it is strongly recommended that there should be an on-going scientific appraisal of a portion of the results as they are obtained to ensure that industry and government extract the maximum value from them. It is recommended that the appraisal of results which must involve field work, should be a joint responsibility of Federal and Provincial scientists and technicians, to be supported out of normal operating budgets.

URANIUM RECONNAISSANCE PROGRAM

SUMMARY

The Uranium Reconnaissance Program (URP) is primarily designed to encourage uranium exploration in Canada, but it will simultaneously provide quantitative data for use in uranium resource assessment and make a substantial contribution towards

geoscience and the resource data base in general. Both geophysical and geochemical techniques are involved. Airborne gamma-ray spectrometry will be used in areas with some outcrop and relatively flat topography. High sensitivity equipment similar to that developed and used by the Geological Survey of Canada in recent years will be operated by contractors. For reconnaissance purposes a line spacing of 5 km will generally be employed.

In areas which are mountainous, covered by thick overburden, or underlain by flat lying sediments, appropriate geochemical techniques will be applied based on the sampling of stream or lake sediment, bedrock, surface or subsurface waters. Sampling intervals will be in the range of 1 per 10 to 1 per 25 sq. kms. In addition to uranium up to 11 other elements will be measured to provide supplementary information.

A proposed breakdown of the costs of URP are shown on the attached sheets. Ten years is required to obtain coverage over 2.8 M square miles i.e. about 70% of Canada, assuming no overlap.

The reasons for carrying out this reconnaissance program can be expanded as follows:

- (1) to provide high quality data to stimulate new exploration efforts by small and medium sized companies who cannot afford to acquire such starting information for themselves;
- (2) to ensure no potential uranium resource areas have been overlooked, bearing in mind the fact that a several-fold reduction in present ore-grades will become acceptable within ten years;
- (3) to provide a consistent national standard against which past company exploration work can be compared and judged as to quality and effectiveness;
- (4) to avoid needless repetition of exploration work; industry and government funds are too scarce to encourage duplication; they are better spent doing a good job once than a poor job several times over;
- (5) to provide national systematic coverage which can be used in conjunction with other geoscience data to improve knowledge about mineralization and regional geology in general;
- (6) to provide quantitative data relating to uranium distribution by area, which in the light of

research projects now being undertaken can be of substantial assistance in providing improved uranium resource estimates.

SUMMARY OF PROPOSED EXPENDITURES  
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Newfoundland & Labrador .....	<u>650,000</u>
	\$6,735,000



ROLE OF GOVERNMENT AND INDUSTRY  
IN URANIUM EXPLORATION AND DEVELOPMENT

John Kostuik  
President - Denison Mines Limited

Presented at  
Thirty-first Mine Ministers' Conference  
Hotel Beauséjour

October 6-8, 1974 - Moncton, New Brunswick

We can agree that Canada is fortunate in possessing great resources of uranium - an energy mineral of most vital international importance. We have a well developed, strong industry represented by several major public companies and by one Crown company. In technology and marketing skills, we can more than hold our own internationally.

This strong position did not come about accidentally and it will not remain strong unless a dynamic stance, presenting initiatives, is taken by governments and the public sector. The uranium industry is so tightly controlled that the role of the public sector in uranium exploration can only be what the federal government will permit by policies that effectively encourage action, or, unintentionally perhaps, hinder it. Unfortunately, the latter situation now prevails for uranium exploration.

A brief outline of the complex history leading to the present situation may be helpful.

The federal government has had a primary role in uranium since World War II when it took over, as a wartime measure, the pitchblende deposits of Eldorado Mining and Refining Ltd. at Port Radium in the Northwest Territories. Staking and mining of radioactive minerals by private individuals and companies was banned. In 1946, the federal government passed an act vesting control of all matters pertaining to atomic energy in Canada in the Atomic Energy Control Board. In 1947, the government decided to permit and encourage private prospecting and mining for uranium; a minimum price (\$2.75/lb.) for uranium oxide was established. The provinces removed their restrictions. This sparked much prospecting, mostly by individuals and small companies but no serious mining operations resulted.

It was obvious by 1950 that the price incentives were inadequate and a formula was devised to pay \$6.00 maximum per lb. for ore grading 5 lbs./ton, decreasing to \$4.95/lb. for higher grade ore containing 10 lbs./ton. In 1951, the price was raised by \$1.25/lb., payable for the first three years of

production. This formula did not result in any commercial operations.

From 1953, the great discoveries of Beaverlodge and the lowgrade deposits of Elliot Lake changed the emphasis to the mining of large deposits and a premium price system was devised, resulting in an average price of \$10.50/lb. Now, the incentives really were effective and Canada became a major world source of uranium from numerous new mines. Although the uranium industry languished in the 1960's while nuclear power for generation of electricity was developing strength, several Canadian uranium mines with large resources kept Canada in the forefront as a supplier for the domestic and international market. The Canadian government offered stockpiling programs to producers to keep them "treading water" during this period.

Despite the remarkable success of the price incentives in finding great new resources of great strategic value, the federal government in recent years, when massive new exploration efforts have been needed, has actually discouraged exploration activity by its uranium ownership requirements announced suddenly in 1970, following the blocking of an attempted takeover of Denison Mines.

Exploration in the uranium industry today is practically non-existent owing to the harsh treatment accorded the industry by the Federal Government. The treatment and the tax situation in the mining industry have driven capital to more profitable industries and to other countries. Moreover, Government regulations regarding foreign ownership in the industry seriously restrict those who do qualify as sources of capital. Whereas in the past, Canadian companies could take on foreign customers as joint-venture partners to reduce the risk in exploration, this option is no longer open in the uranium industry. The unpredictability of government actions regarding controls in the industry also acts as a deterrent to investors.

The 1970 pronouncement restricts equity participation by foreign companies to 33% maximum in new uranium projects. By concentrating its guns on ownership, the federal government apparently overlooked, or underestimated, the effect on exploration of its new policy. The results for uranium exploration have been drastic, and no new reserves of any consequence have been added in recent years, other than those in the process of being developed prior to the pronouncement; Gulf and Mokta being the most notable. Although one of our government's stated objective is to increase uranium supplies in Canada, there has been, so far, no indication of changes that would make exploration attractive for public companies.

In 1973, the federal and Saskatchewan governments agreed to spend \$94,500 on experimental airborne survey flights in northern Saskatchewan and in January 1974, the minister announced that the Crown corporation, Eldorado Nuclear, would be provided with funds to expand exploration in Canada. And,

no doubt, the Geological Survey will be undertaking programs to define possible new areas for exploration. But, these are activities by government agencies. One looks in vain for any indication that the public sector is to be encouraged to participate.

The new federal guidelines on uranium assure adequacy of fuel for domestic reactors, built or on order, before exports will be permitted! This is as it should be. But, to parallel this kid-glove treatment of our utilities, which have spent no risk money whatsoever for exploration, has our government taken effective measures to encourage new discoveries of uranium for Canada and for export and the economic wealth that would ensue? I say the answer is "no", despite the stated objective and desire of our government to increase supplies.

A world demand of 5,000,000 tons by the end of the century must be met. It takes 6-8 years to find and develop a mine. Should not, then, a massive exploration effort based upon an excellent geologic setting, be launched in Canada to regain leadership in this industry? Should not this effort be aided, and augmented, by large amounts of risk-venture capital from outside our country?

In my judgment, it is not enough to rely on the doubling or tripling of uranium prices to attract venture capital. Joint-venture exploration money will not enter Canada in significant amounts if (a) foreign equity is limited to 33% and (b) if there is no assurance that some definite percentage of the uranium discovered can be exported. This situation is not healthy for our industry. Demand for uranium is growing intensely. I say that a sound method of meeting this demand is to permit foreign ownership to increase to 45-49%, and to give assurance that uranium from new discoveries, perhaps proportional to that degree of ownership, can be exported.

The uranium industry needs to know whether the federal government will effectively encourage exploration initiative by correcting the rigidities of present policies, or whether it will simply continue to overlook the results of the 1970 pronouncements. Will the public sector be welcomed and encouraged to expand the search, or will Crown agencies assume the primary role? Gentlemen, the roles of government and industry in uranium exploration must be clarified.



# CANADA CENTRE FOR GEOSCIENCE DATA

## SUMMARY OF ACTIVITIES

October 1973 - September 1974

A report submitted to  
the Thirty-first Conference of  
the Provincial Ministers of Mines

Moncton, New Brunswick  
7-8 October 1974

### 1. Administration Programme

A change in administration of the Centre took place on 1 April 1974 when it was transferred from the Geological Survey of Canada to the office of the Assistant Deputy Minister, Science and Technology, Department of Energy, Mines and Resources. Quarters for CCGD were moved to the new "EMR Tower" at 580 Booth Street in September 1974. The new telephone number is (613) 992-9550.

The administrative change resulted from a decision by the Department to begin planning for a broadly-based operational data system, called the Earth Resources Data System (ERDS), through which computer-processible data on the Canadian landmass and its mineral and fuel resources can be more conveniently acquired and used. The planning phase for ERDS is still in progress, and an operational service will be announced sometime during 1975.

### 2. Canadian Index to Geoscience Data

The size of the Index grew steadily throughout the year, and currently exceeds 40,000 document titles, contributed by nine agencies. With excellent coverage now available for certain parts of the country, emphasis by CCGD has shifted from building the file to providing customer services and ready access by the public. These services will include fast turn-around for custom indexes, publication of large, general indexes in microfiche form, and on-line access through remote terminals. To arrange for these facilities, improvement and development of the existing file management system (RAID) will be required, new programs for producing microfiche tapes required, and practical techniques with on-line telecommunication equipment must be developed.

As requested by the Ministers at last year's conference, CCGD contacted all non-participating provinces to determine their plans for contributing to the Canadian Index to



Geoscience Data. The Ministers had "noted that it was desirable to have all provinces participate on a national scale", and they have endorsed this project at each of the past six conferences. Of the six provinces contacted, replies as of 3 October 1974 were received from five. The following provincial agencies indicated that firm plans were being made for participation in the immediate or near future:

1. Alberta Research
2. British Columbia Department of Mines and Petroleum Resources
3. Nova Scotia Department of Mines
4. Prince Edward Island Department of Industry and Commerce

The Province of Manitoba stated that its present priorities prevent participation at this time.

The response was most gratifying to the Canadian Centre for Geoscience Data and, doubtless, to the nine current contributing agencies. The prospects for achieving a single but cooperatively developed system for identifying public geoscience data dealing with the Canadian landmass are bright indeed, with active participation by at least eight provinces and four federal agencies.

### 3. Computer-based Mineral Deposit Files

Work is nearly complete on a manuscript entitled "Computer-based mineral deposit data files: recommended basic standards for content and notation", prepared by a federal-provincial-industry committee, and coordinated by the Centre. Progress in producing a publication has been delayed by certain problems of substance in the report, the absence of many committee members during parts of the year, and limited editorial facilities at CCGD. Nevertheless, a published report should be available by early 1975. The major topics to be covered include the following:

1. The need for earth resources data.
2. Application of mineral and fuel deposit data files and their management.
3. Data structure: concepts and terminology.
4. General recommendations.
5. Recommended basic standards for content and notation
  - 5.1 Identification data
  - 5.2 Economic data
  - 5.3 Geological data
  - 5.4 Supporting data

#### 4. File Management System

The Centre has continued development of a basic system for the management of computer-based files which would meet basic needs and be attractive to geoscientists in general. The system, recently named GEODAM (Geological Data Management), is based on the SAFRAS system developed by Dr. P. G. Sutterlin of the University of Western Ontario, but has been rewritten and modified to incorporate recommendations of a CCGD-sponsored national committee. Work on GEODAM has been carried out jointly by the Geological Survey of Canada and Miss Ann C. Bartlett-Page, University of Alberta, under contract to CCGD. Completion of the system, including testing and documentation, is expected by late 1975. Several modules are now operational and a user's manual completed.

#### 5. International Liaison

CCGD staff are active in several projects of international scope in order to keep abreast of rapidly developing technology and to make its contribution to the global scene. These activities include:

1. Secretary of COGEODATA, International Union of Geological Sciences, a committee devoted to the generation, storage and communication of data in computer-processible form.
2. Member of international working group to develop a multilingual thesaurus for geology, sponsored by the International Council of Scientific Unions and the International Union of Geological Sciences.
3. Member of Publications Committee, Geological Society of America, to promote and develop use of modern bibliographical services for GSA members, especially those based on the Geo Ref file.
4. Active participation in various activities of CODATA (Committee on Data for Science and Technology), emphasizing multidisciplinary problems and international data exchange.

Ottawa

3 October 1974

AMENDED AGENDA

COMMITTEE No. 2

Monday Morning 10-12

1 - Review Provincial Legislation

Newfoundland  
Nova Scotia  
New Brunswick  
Quebec - Mr. Jean Tetu (Mines Assessor)  
Ontario - Dr. Tom Mohide (Director, Mineral  
Resources & Mines Assessor of Ontario)  
Manitoba - Charlie Perry (Assistant Deputy Minister  
of Finance (Taxation))  
Saskatchewan - Mr. Tom Tamaki (Associate Deputy  
Minister of Mineral Resources)  
Alberta  
British Columbia - Mr. Hart Horn (Director, Mineral  
Revenue Division)

2 - Receive the report of the Sub-Committee on Mineral  
Statistics (Dr. Jim Fyles)

Monday Afternoon 2-5

3 - Discuss the rationale of Crown Corporation in the extractive  
industries. Panel to consist of:

(a) Mr. Digby Hunt - Assistant Deputy Minister (Northern  
Affairs) Department of Indian and  
Northern Affairs

(b) either Dr. Come Carboneau - President of Soquem  
or Mr. Claude Genest - Vice President of Soquem

(c) Mr. Albert Koffman - President of Manitoba Mineral  
Resources Ltd.

(d) Mr. John Burton - Research Economist, Sask. Dept. of  
Mineral Resources

4 - Discuss the status of sub-committees

5 - Provide, if possible, tax models illustrating existing  
provincial and federal taxation

6 - Panel on long-term planning and national energy policy  
deleted due to lack of time

MINISTER OF NATURAL RESOURCES  
Centennial Building  
Fredericton, New Brunswick, Canada

October 8, 1974

The Honourable Alastair Gillespie,  
Minister of Industry, Trade and Commerce,  
22nd Floor, Tower "B",  
Place de Ville,  
Ottawa, Ontario.  
K1A 0H5

Dear Mr. Gillespie,

At the 31st Conference in Moncton on October 8th the Provincial Ministers of Mines agreed that work on Mineral Statistics across Canada which was formerly undertaken by a Subcommittee of the Conference should be transferred to the Federal-Provincial Consultative Council on Statistical Policy.

This letter is to ask you to establish a Committee on Mineral Statistics under that Council.

Deficiencies in the Mineral Statistics supplied by Statistics Canada are recognized by the Mineral sector and were particularly evident at this 31st Conference. The need for realistic statistics directed toward the specific needs of the Provinces, the Department of Energy, Mines and Resources and the Mineral Industry as the principal users is urgent. The Subcommittee on Mineral Statistics has studied some of the problems over a period of years but has made slow progress. We suggest that a Committee which is directly responsible to the Federal-Provincial Consultative Council on Statistical Policy will be more effective in implementing the necessary improvements in mineral statistical data.

Yours very truly,

A. EDISON STAIRS,  
CHAIRMAN,  
THIRTY-FIRST ANNUAL CONFERENCE  
PROVINCIAL MINISTERS OF MINES



REPORT OF COMMITTEE No. 2

FINANCIAL AND STATISTICAL

Acting Chairman: C. A. Perry

ITEM 1 - REVIEW OF PROVINCIAL LEGISLATION

1. Ontario reported significant changes in the Corporation Tax Act and Mining Tax Act which are under consideration by the Legislature.

Among the proposed changes in the Mining Tax Act are a graduated scale of rates to replace the single rate of 15 per cent, and increased processing allowances to encourage further processing in Northern Ontario.

2. Manitoba increased its rate of mining tax from 15 to 23 per cent, where incomes exceed \$50,000.

An incremental tax was levied on oil lands in a production area under the Mineral Taxation Act.

A summary of 1974 legislative changes is appended.

3. Saskatchewan reported that the major legislative changes since September 1973 were:

- (a) The Oil and Gas Conservation, Stabilization and Development Act, 1973;
- (b) An Act to amend The Mineral Resources Act;
- (c) An Act to amend The Mineral Taxation Act;
- (d) Amendments to The Petroleum and Natural Gas Regulations, 1969;
- (e) The Oil and Gas Exploration, Development and Production Incentive Regulations, 1974.

A summary of these changes is appended.

4. Alberta reported an upward adjustment in royalty rates on oil. In addition, a mechanism has been established to monitor oil prices and to purchase and market all oil produced in the province.

Taxation of other minerals is under review.

5. British Columbia reported additional levies on minerals under the Mineral Royalties Act, and Mineral Land Tax Act and the Petroleum and Natural Gas Act.

A summary of the changes is appended.

6. Other provinces and the Yukon and Northwest Territories reported no changes, although mining taxation and royalties are under review.

## ITEM 2 - TAX MODELS

Time did not permit the development of tax models for presentation to the Committee. However, a brochure entitled "Tax Increases for Mining" was distributed to Committee members. The brochure was produced by Price Waterhouse and Company, and illustrates the effect of present and proposed federal and provincial levies on the mining industry in Ontario, Manitoba and British Columbia.

## ITEM 3 - PANEL ON THE RATIONALE OF CROWN CORPORATIONS IN THE EXTRACTIVE INDUSTRIES

Committee No. 2 was joined by Committee No. 1 to hear the presentation by the following panel members:

1. John S. Burton, Special Project Co-ordinator, Planning and Research, Executive Council of the Government of Saskatchewan.
2. A. Digby Hunt, Assistant Deputy Minister of Department of Indian and Northern Affairs, and a Director of Panarctic Oils Limited.
3. A. Koffman, President of Manitoba Mineral Resources Limited.
4. J. Rudolph, Bluemont Resources Limited.
5. Claude Genest, Vice President, SOQUEM
6. L. Kilburn, Falconbridge Nickel.

## ITEM 4 - SUB-COMMITTEE ON MINERAL STATISTICS

The report of the sub-committee, a copy of which is

appended, was received from Dr. J. Fyles. After some discussion of the problems involved in the collection and compilation of appropriate statistics data, a motion was carried, approving for transmission to the Ministers, the following recommendations presented in the report:

- (1) The work of the Task Force on Mineral Valuation should be continued so that the necessary changes can be made in the Statistics Canada Census of Mines questionnaires.
- (2) The Ministers of Mines should request the Minister of Industry, Trade and Commerce to establish, within the Federal-Provincial Consultative Council on Statistical Policy, a Committee on Mineral Statistics.
- (3) The work of the sub-committee and Task Force should be transferred to the Committee under (2) above at a time when that Committee is functioning.

#### ITEM 5 - LONG TERM PLANNING AND NATIONAL ENERGY POLICY

Due to the shortness of the time available, Item 5 was deleted from the agenda.

#### ITEM 6 - STATUS OF SUB-COMMITTEES

As set forth under Item 4, the Committee recommends that the Sub-committee on Mineral Statistics be retained.

This report is respectfully submitted.

CHARLES A. PERRY

Oct. 8, 1974.

REPORT ON THE SUBCOMMITTEE  
ON MINERAL STATISTICS

The Subcommittee met on October 6 and considered the following subjects:

- (1) Annual survey of exploration expenditures.
- (2) Report from the Task Force on Mineral Valuation.
- (3) Work of the Subcommittee.

Fourteen people representing five provinces, Statistics Canada and the Department of Energy, Mines and Resources were present.

1. Annual Survey of Exploration Expenditures - Statistics Canada again prepared summaries of exploration expenditure data as shown in the following tables. Estimates of total exploration are reported as \$108.5 million in 1973 compared with \$89.1 million in 1972. The summaries also show that development expenditures and the outlays on mining structures increased in 1973. However, the acquisition of machinery and equipment was down in 1973 to \$312.2 million from the \$394.3 million in 1972. Iron mining provides some strength for the metals group but is offset by lower spending in the later phases of new projects in non-ferrous metals. Provincially, outlays in British Columbia are lower for most categories of capital spending while Quebec and Ontario show increases largely as a result of expansions in iron mining and in non-ferrous metals.

2. The Report of the Task Force on Mineral Valuation was received and accepted after considerable discussion. The report is as follows:

The Task Force met in Toronto on March 14 and in Moncton on October 5. Discussion and modification of the non-ferrous metal mine questionnaire for obtaining production statistics continued. Use of the questionnaire has been delayed because of concern that many companies will be unable to respond adequately to a standard questionnaire of this sort. Testing in 1973 and discussion with the industry through its representatives at the March meeting, and the Mining Association of Canada, has lead to some improvements. The need for more realistic statistics based on the quantity and value of the production of mineral commodities at the mine site is urgent. It is therefore recommended that:

- (1) the questionnaire be finalized;
- (2) Statistics Canada be requested to send it to all non-integrated non-ferrous mining companies as a separate sheet along with the 1974 Annual Census of Mines;



- (3) Statistics Canada be requested to incorporate the questionnaire or some modification of it in the 1975 Annual Census of Mines; and
- (4) the Task Force continue to work toward obtaining comparable statistics from the integrated mining companies.

3. Work of the Subcommittee - Reference was made to the proceedings of the 30th Conference in which the Ministers agreed that the work of the Subcommittee should form the basis of a new mineral committee of the proposed federal-provincial Council of Economic Statistics. This Council, known as the Federal-Provincial Consultative Council on Statistical Policy, has been formed and committees dealing with various sectors of the Canadian economy are being appointed. It is now time to set up a Committee on Mineral Statistics of the Council which would carry out the work of the Subcommittee and the Task Force on Mineral Valuation and maintain close contact with the Financial and Statistical Committee of the Mines Ministers Conference. The Terms of Reference of the Council Committee on Mineral Statistics should include the following:

(1) Purpose - The Committee will be guided by the Terms of Reference of the Council and, with particular reference to the needs of users, will review the present statistical programme in the mineral area with a view to:

- (a) establishing priorities;
- (b) identifying problem areas; and
- (c) facilitating an earlier resolution to problems than is currently possible.

(2) Membership - The Committee should be composed of the Director of the Manufacturing and Primary Industries Division, Statistics Canada, one delegate from the Department of Energy, Mines and Resources, one principal delegate from each province and territory in Canada, one delegate from the Provincial Mines Ministers Conference, and such other delegates as are deemed necessary to provide adequate representation from the various agencies dealing with mineral statistics in Canada.

(3) Action groups - The Committee will set up action groups to expeditiously resolve current statistical problems. Problems requiring urgent attention which are now before the Subcommittee include:

- (a) conclude the work of the Task Force on Mineral Valuation; and
- (b) statistical assessment of employment in exploration and services incidental to mining.

(4) Meetings - The Committee should meet at least once every year and as frequently as necessary.

(5) Reporting - The Committee will report annually on its activities to the Federal-Provincial Consultative Council on Statistical Policy to the Provincial Minister of Mines Conference through its representative on the Committee. The Mines Ministers Conference will convey its needs and activities in the area of mineral statistics to the Council Committee through its representative.

#### RECOMMENDATIONS

(1) The work of the Task Force on Mineral Valuation should be continued so that the necessary changes can be made in the Statistics Canada Census of Mines questionnaires.

(2) The Ministers of Mines should request the Minister of Industry, Trade and Commerce to establish within the Federal Provincial Consultative Council on Statistical Policy a Committee on Mineral Statistics.

(3) The work of the Subcommittee and Task Force should be transferred to the Committee under (2) above at a time when that Committee is functioning.

Exploration, Development and Capital and Repair Expenditures  
by  
Mining and Exploration Companies(1)

Canada — By Province  
1972 Final  
(millions of dollars)

	Capital Construction			Capital Machinery and Equipment		Repair Construction		Repair Machinery and Equipment		Total Capital and Repair		Outside or General Exploration	Land and Mining Rights
	On-Property Exploration	On-Property Development	Structures	Sub-total	Equipment	Construction		Equipment		Repair			
Atlantic Provinces(2) .....	1.6	10.4	10.9	22.9	71.5	6.2		48.3		148.9		2.7	0.1
Quebec .....	3.2	29.2	123.6	156.0	159.6	6.4		74.5		396.5		9.9	2.0
Ontario .....	5.9	55.7	24.9	86.5	79.0	8.0		122.4		295.9		15.3	1.7
Manitoba .....	(3)	(3)	(3)	31.1	15.6	2.4		13.2		62.3		5.6	-
Saskatchewan .....	(3)	(3)	(3)	9.1	12.7	1.9		21.7		45.4		3.7	(4)
Alberta .....	(3)	(3)	(3)	7.4	5.0	0.3		5.5		18.2		1.8	(4)
British Columbia .....	2.2	22.9	46.9	72.0	48.0	6.4		59.4		185.8		27.2	(4)
Yukon and Northwest Territories	2.8	16.2	1.5	20.5	2.9	1.0		13.8		38.2		6.3	(4)
Canada .....	16.6	157.9	231.0	405.5	394.3	32.6		358.8		1,191.2		72.5	12.7

(1) These figures do not include outlays in the petroleum and natural gas industry (See Crude Petroleum and Natural Gas Industry, Catalogue No. 26-213, Table 6). Smelting and refining are included in the manufacturing industry (See Private and Public Investment, Catalogue No. 61-205, Table 3).

(2) The provinces have been grouped because of the confidentiality clause of the Statistics Act.

(3) The breakdown of capital construction for the Prairie Provinces is not available because of the need to retain confidentiality but is included in the Canada totals.

(4) The data pertaining to the purchase of land and mining rights for the Western Provinces are not available because of the confidentiality clause of the Statistics Act, but are included in the Canada total.

Prepared in the Construction Division, Statistics Canada, Ottawa.

by  
Mining and Exploration Companies (1)  
Canada — By Type of Mining  
1972 Final

(millions of dollars)

	Capital Construction				Capital Machinery and Equipment		Repair Construction		Repair Machinery and Equipment		Total Capital and Repair		Outside or General Exploration		Land and Mining Rights	
	On-property Exploration	On-property Development	Structures	Sub-total	Equipment		Construction		Equipment		Repair		Exploration		Rights	
Metals: — Total .....	14.1	122.9	205.7	342.7	312.4		26.4		242.3		923.8		17.6		1.2	
Gold .....	0.6	8.4	0.3	9.3	1.6		0.4		4.8		16.1		1.0		—	
Copper-Gold-Silver .....	4.0	43.7	73.9	121.6	105.2		7.5		51.6		285.9		7.2		0.5	
Silver-Lead-Zinc .....	3.4	12.4	3.2	19.0	7.0		1.8		16.2		44.0		1.3		0.4	
Iron Mines .....	(2)	(2)	(2)	127.6	(2)		9.1		82.8		(2)		0.7		—	
Other Metals (3) .....	(4)	(4)	(4)	65.2	(4)		7.6		86.9		(4)		7.4		0.3	
Non-Metals: — Total .....	0.8	33.9	25.1	59.8	81.3		6.2		116.4		263.7		1.0		9.0	
Asbestos .....	0.3	19.4	9.7	29.4	27.9		2.5		32.8		92.6		0.2		(5)	
Misc. Mining (6) .....	0.5	14.5	15.4	30.4	53.4		3.7		83.6		171.1		0.8		(5)	
Metal and Non-Metal Exploration Co's .....	1.7	1.1	0.2	3.0	0.6		-		0.1		3.7		53.9		2.5	
Total Mining .....	16.6	157.9	231.0	405.5	394.3		32.6		358.8		1,191.2		72.5		12.7	

88

- (1) These figures do not include outlays in the petroleum and natural gas industry (See Crude Petroleum and Natural Gas Industry, Catalogue No. 26-213, Table 6 Smelting and refining are included in the manufacturing industry (See Private and Public Investment, Catalogue No. 61-205, Table 3)).
- (2) Some data for iron mines are not available due to the confidentiality clause of the Statistics Act. These figures are included in total metals.
- (3) Other metals include nickel-copper mines, silver-cobalt mines, uranium mines and all other metal mines.
- (4) These data for "other metal mines" are not available due to the confidentiality clause of the Statistics Act but are included in total metals.
- (5) The data pertaining to the purchase of land and mining rights in the asbestos and miscellaneous mining sectors are not available because of the confidentiality clause of the Statistics Act, but are included in total non-metals.
- (6) Miscellaneous Mining includes coal mines, gypsum mines, salt mines, potash mines, quarrying, sand and gravel and other non-metal mines.

Prepared in the Construction Division, Statistics Canada, Ottawa.



# Exploration, Development and Capital and Repair Expenditures

## by Mining and Exploration Companies (1)

Canada — By Province  
1973 Preliminary Final  
(millions of dollars)

	Capital Construction			Capital Machinery and Equipment	Repair Construction	Repair Machinery and Equipment	Total Capital and Repair	Outside or General Exploration	Land and Mining Rights	
	On-property Exploration	On-property Development	Structures Sub-total							
Atlantic Provinces (2).....	2.0	11.8	25.9	39.7	58.9	10.4	66.1	175.1	4.5	0.2
Quebec.....	3.3	44.7	153.1	201.1	137.2	7.7	102.7	448.7	12.1	(4)
Ontario.....	6.8	69.6	16.1	92.5	46.5	19.2	116.4	274.6	18.9	2.5
Manitoba.....	(3)	(3)	(3)	29.8	13.0	3.4	18.6	64.8	5.9	(4)
Saskatchewan.....	(3)	(3)	(3)	12.2	14.6	1.3	26.7	54.8	6.4	(4)
Alberta.....	(3)	(3)	(3)	12.3	3.5	0.4	6.3	22.5	2.5	(4)
British Columbia.....	5.4	19.5	16.7	41.6	32.7	10.9	81.0	166.2	26.4	1.4
Yukon and Northwest Territories	2.0	14.2	6.8	23.0	5.8	2.5	15.9	47.2	8.6	0.3
Canada.....	23.2	184.7	244.3	452.2	312.2	55.8	433.7	1,253.9	85.3	8.9

- (1) These figures do not include outlays in the petroleum and natural gas industry (See Crude Petroleum and Natural Gas Industry, Catalogue No. 26-213, Table 6). Smelting and refining are included in the manufacturing industry (See Private and Public Investment, Catalogue No. 61-205, Table 3).
- (2) The provinces have been grouped because of the confidentiality clause of the Statistics Act.
- (3) The breakdown of capital construction for the Prairie Provinces is not available because of the need to retain confidentiality but is included in the Canada totals.
- (4) The data pertaining to the purchase of land and mining rights for some provinces are not available because of the confidentiality clause of the Statistics Act, but are included in the Canada total.

Prepared in the Construction Division, Statistics Canada, Ottawa.

Mining and Exploration Companies (1)  
Canada — By Type of Mining

1973 Preliminary Final

(millions of dollars)

	Capital Construction				Capital Machinery and Equipment	Repair Construction	Repair Machinery and Equipment	Total Capital and Repair	Outside or General Exploration	Land and Mining Rights
	On-property Exploration	On-property Development	Structures	Sub-total						
Metals: — Total.....	18.0	147.4	216.3	381.7	230.0	49.0	297.4	958.1	15.7	0.4
Gold.....	1.1	11.1	2.0	14.2	3.4	0.4	4.6	22.6	1.1	0.1
Copper-Gold-Silver.....	6.3	47.1	29.4	82.8	68.8	13.9	80.8	246.3	6.2	0.2
Silver-Lead-Zinc.....	2.8	14.5	8.7	26.0	13.9	3.0	17.4	60.3	1.3	-
Iron Mines.....	(2)	(2)	(2)	192.7	(2)	14.4	117.9	(2)	1.5	-
Other Metals (3).....	(4)	(4)	(4)	66.0	(4)	17.3	76.7	(4)	5.6	0.1
Non-Metals: — Total.....	4.0	35.5	27.8	67.3	80.9	6.5	135.9	290.6	1.6	6.6
Asbestos.....	0.2	20.9	7.1	28.2	21.5	2.8	39.8	92.3	0.1	(5)
Misc. Mining (6).....	3.8	14.6	20.7	39.1	59.4	3.7	96.1	198.3	1.5	(5)
Metal and Non-Metal Exploration Co's.....	1.2	1.8	0.2	3.2	1.3	0.3	0.4	5.2	68.0	1.9

- (1) These figures do not include outlays in the petroleum and natural gas industry (See Crude Petroleum and Natural Gas Industry, Catalogue No. 26-213, Table Smelting and refining are included in the manufacturing industry (See Private and Public Investment, Catalogue No. 61-205, Table 3).
- (2) Some data for iron mines are not available due to the confidentiality clause of the Statistics Act. These figures are included in total metals.
- (3) Other metals include nickel-copper mines, silver-cobalt mines, uranium mines and all other metal mines.
- (4) These data for "other metal mines" are not available due to the confidentiality clause of the Statistics Act but are included in total metals.
- (5) The data pertaining to the purchase of land and mining rights in the asbestos and miscellaneous mining sectors are not available because of the confidentiality clause of the Statistics Act, but are included in total non-metals.
- (6) Miscellaneous Mining includes coal mines, gypsum mines, salt mines, potash mines, quarrying, sand and gravel and other non-metal mines.

Prepared in the Construction Division, Statistics Canada, Ottawa.

# CAPITAL EXPENDITURES IN THE PETROLEUM AND NATURAL GAS AND ALLIED INDUSTRIES IN CANADA, 1953-74 (1)

Year	Petroleum and natural gas extraction (3, 4)			Transportation, including rail, water and pipelines			Marketing (chiefly outlets of oil companies)			Natural gas distribution			Petroleum refining including lubricants totals (2)	Natural gas processing plants total (2, 3)
	Con- struc- tion	Mach. and Equip.	Total	Con- struc- tion	Mach. and Equip.	Total	Con- struc- tion	Mach. and Equip.	Total	Con- struc- tion	Mach. and Equip.	Total		
Millions of Dollars														
1953	87.1	20.1	107.2	72.8	6.7	79.5	21.1	15.6	36.7	12.0	1.8	13.8	66.1	0.7
1954	103.6	23.2	126.8	61.4	3.7	65.1	26.5	19.8	46.3	13.9	1.9	15.8	83.9	8.5
1955	173.7	27.9	201.6	44.4	1.6	46.0	35.7	20.8	56.5	18.0	1.7	19.7	102.9	2.9
1956	213.3	39.1	252.4	172.8	4.3	177.1	45.4	23.1	68.5	42.0	4.6	46.6	79.1	10.5
1957	194.8	43.0	237.8	304.0	6.1	310.1	47.8	27.1	74.9	64.8	5.0	69.8	81.5	34.5
1958	160.1	21.4	181.5	234.2	4.2	238.4	36.9	26.4	63.3	74.1	5.3	79.4	96.5	40.1
1959	167.0	24.9	191.9	55.3	3.9	59.2	45.0	28.1	73.1	77.0	12.8	89.8	95.0	24.4
1960	181.0	28.1	209.1	91.4	7.5	98.9	39.5	28.6	68.1	56.5	6.4	62.9	59.2	19.4
1961	243.7	28.3	272.0	147.6	17.3	164.9	31.8	24.2	56.0	52.0	7.3	59.3	31.2	76.5
1962	235.7	33.2	268.9	60.8	11.4	72.2	25.3	22.4	47.7	60.0	9.3	69.3	64.8	21.9
1963	261.8	35.3	297.1	99.2	8.7	107.9	28.7	24.3	53.0	70.4	13.7	84.1	44.2	38.6
1964	294.6	42.1	336.7	146.2	17.8	164.0	24.2	24.1	48.3	54.5	13.8	68.3	23.9	40.6
1965	356.4	24.6	381.0	96.5	15.6	112.1	30.6	24.6	55.2	54.2	18.3	72.5	39.8	41.5
1966	414.3	39.2	453.5	139.0	15.0	154.0	35.0	29.0	64.0	72.7	19.6	92.3	64.8	50.1
1967	352.9	32.2	385.1	150.7	54.2	204.9	50.7	36.1	86.8	58.5	17.9	76.4	99.6	89.7
1968	342.7	31.6	374.3	204.5	43.4	247.9	48.2	39.4	87.6	87.0	30.4	117.4	127.6	91.1
1969	401.3	36.8	438.1	189.7	30.9	220.6	59.7	43.9	103.6	85.4	31.6	117.0	128.3	103.5
1970	396.0	53.3	449.3	205.6	40.9	246.5	59.8	40.2	100.0	70.9	29.5	100.4	229.8	189.5
1971	438.5	51.1	489.6	338.2	13.8	352.0	54.9	44.3	99.2	86.4	28.8	115.2	227.0	251.1
1972	625.2	65.0	690.2	409.4	31.5	440.9	61.0	50.8	111.8	107.5	34.2	141.7	239.1	130.3
1973	802.1	63.8	865.9	327.7	52.4	380.1	78.4	58.9	137.3	101.3	34.9	136.2	310.2	96.0
1974	1,010.1	165.5	1,175.6	217.5	28.6	246.1	84.2	65.7	149.9	111.6	33.4	145.0	474.3	151.2

(1) 1953-1972 are actual expenditures; 1973 and 1974 are respectively preliminary estimates and intentions.

(2) In this tabulation no attempt has been made to provide a breakdown of total capital expenditures into construction and machinery and equipment. The nature of the structure of oil refineries and gas processing plants does not permit such a distinction once erected.

(3) These figures have been revised back to 1961 based on a change in concepts and on the use of a special survey questionnaire for the industry beginning in 1965.

(4) Capital expenditures made by oil and gas drilling contractors are also included back to 1961. Geological and geophysical operations are not included in these figures.

1974 LEGISLATIVE CHANGES  
IN THE PROVINCE OF MANITOBA  
AFFECTING THE EXTRACTIVE INDUSTRIES

The major amendment to The Mining Royalty and Tax Act consisted of an increase in the rate of tax imposed under that Act from 15% to 23% where incomes exceed \$50,000.

In order to avoid year-end problems, a change was made in the date of the final payment of taxes in the fiscal year. Previously the final payment was due on the 25th of March following the taxation year. Due to mail delays in a number of instances, revenues had previously been deferred to a non-applicable fiscal year and the date of filing of the final payment was therefore changed to March 15th.

While a number of housekeeping changes were made such as the transfer of certain powers from the "mine assessor" to the "director", no changes were made to the tax base.

Two amendments at the 1974 Session are no doubt of interest to the mining industry, they consist of amendments to The Gasoline and Motive Fuel Tax Acts re on-highway-use of diesel fuel which was reduced from 20¢ per gallon to 18¢ per gallon with off-highway-use of diesel remaining at a net of 5¢ per gallon (being a refund of 13¢ rather than 15¢ as previously provided); at the same time gasoline taxes were reduced from 17¢ per gallon to 15¢ per gallon. The reductions in the taxes levied on gasoline and motive fuel came into force on July 1st, 1974.

A substantial amendment was made to The Mineral Taxation Act which provides for a tax on minerals in a producing area to be levied against the beneficial owner thereof. The amendments consisted primarily of a levy of an incremental tax, based on a mill rate ranging from 93 mills for 1 barrel per day production in a new well to 233 mills based on over 20 barrel per day production in a developed well, with the fair value being calculated as 1 1/2 times the total of the monthly value for each of the months in the fiscal year with the well-head value of a barrel of oil in no case to be less than \$5.80.

A number of copies of Bill 77 which include the amendments to The Mining Royalty and Tax Act as well as The Gasoline and Motive Fuel Tax Acts, etc., are available for those of you who would like a copy of same together with a more limited number of copies of Bill 85 being the amendments to The Mineral Taxation Act.



## REVIEW OF PROVINCIAL LEGISLATION

(Saskatchewan)

Since September, 1973, Saskatchewan's major legislation relating to minerals are:

- (a) The Oil and Gas Conservation, Stabilization and Development Act, 1973;
- (b) An Act to amend The Mineral Resources Act;
- (c) An Act to amend The Mineral Taxation Act;
- (d) Amendments to The Petroleum and Natural Gas Regulations, 1969;
- (e) The Oil and Gas Exploration, Development and Production Incentive Regulations, 1974.

1. Very briefly the Oil and Gas Conservation, Stabilization and Development Act, 1973, provide for:

- (a) the imposition of mineral income tax on oil produced from privately owned mineral lands;
- (b) fixing of mineral acreage tax at 50¢ an acre per year;
- (c) establishing the maximum and minimum wholesale prices of refined petroleum products sold in Saskatchewan (not yet proclaimed in force);
- (d) the acquisition of certain oil and gas rights in producing tracts and compensation therefor;
- (e) the establishment of the Energy and Resource Development Fund for the purpose of providing funds for making rebates on mineral income taxes and royalty surcharges paid, grants and loans, in order to encourage and assist persons to explore and develop the energy resources of Saskatchewan and to conduct research into the conservation, development, production and utilization of energy resources.

2. The amendments to The Mineral Resources Act provide for the imposition of Crown royalty surcharge on oil produced from Crown lands.

3. The amendments to The Mineral Taxation Act:

- (a) exempts a trust company from payment of mineral acreage tax on minerals held by it in trust for an individual who would otherwise be exempt if the minerals were held in his name;
- (b) restricts a transfer of minerals from a person liable for payment of mineral acreage tax to a person who does not become liable to pay the tax upon such transfer;
- (c) authorizes the imposition of a tax payable on the value of the potash ore reserves, mine and refining plant;
- (d) deletes the exemption of mineral acreage tax on coal.

4. Some of the notable regulations relating to minerals that were passed during the year are:

- (a) Amendments to The Petroleum and Natural Gas Regulations, 1969;
- (b) The Oil and Gas Exploration, Development and Production Incentive Regulations, 1974.

5. The amendments to The Petroleum and Natural Gas Regulations:

- (a) reduce the tenures of permits and leases;
- (b) amend rental payments and work commitments;
- (c) although the royalty rates on oil remain unchanged, the rates are to be applied to the well-head price of oil but, if such price is deemed to be less than a fair sale price, the minister may establish a well-head value on which the royalty is payable.

6. The Oil and Gas Exploration, Development and Production Incentive Regulations, 1974, provide for reductions in the amount of mineral income tax and royalty surcharge payable by the oil producers;

- (a) for expenses of drilling certified exploratory wells.
- (b) for certain approved expenditures for oil and gas development;
- (c) on production of new oil as defined in the regulations;

(d) on production of incremental oil as defined in the regulations;

(e) on marginal oil production.

Under the regulations certain expenditures may be approved for grants or loans from the Energy and Resource Development Fund.

Tom Tamaki.

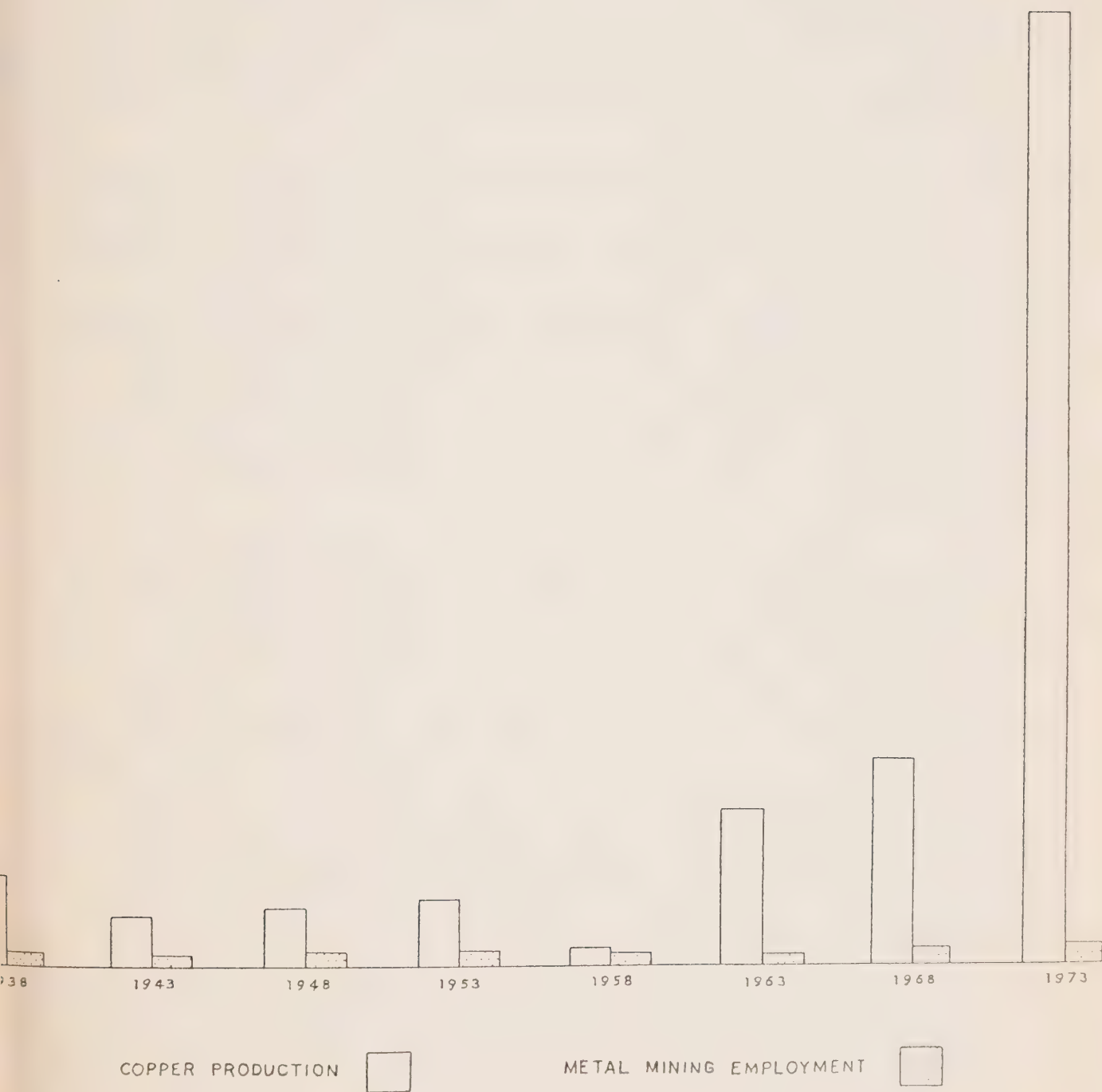
## MINERAL REVENUE IN BRITISH COLUMBIA

Mineral production in British Columbia ranks second in value only to forestry output. In the years of 1972 and 1973, by far the greatest share of that value was generated by the mining industry. Within that context copper proved to be the most valuable single mineral, accounting for one-third of the total value of mineral production in 1972, and one-half of that in 1973. The high value of mineral production notwithstanding, direct returns to the Province have been wholly disproportionate to value. Although the general tax contribution by producers is acknowledged, the enormous cost to Government of infrastructure and social services must be recognized as well.

The disproportionate ratio between mineral value and mineral revenue is particularly striking in light of the low labour intensiveness of the mineral-producing industries. In 1938, the year of highest metal mining employment in British Columbia prior to the 1950's, some 10,000 workers derived their livelihood from metal mining as a whole. In the same year copper production amounted to sixty-six million pounds. In 1974 some 14,600 workers found employment in metal mining, including approximately 4,200 people engaged in exploration and development. By contrast, copper production will amount to more than seven hundred and fifty million pounds in 1974. Hence, copper production alone increased ten times since 1938, while provincial metal production employment experienced virtually no increase.

The following graphic depiction of the relationship between copper production and metal mining employment in British Columbia is indicative of similar imbalances throughout Canada. Industry claims with regard to the multiplier effect of mining employment have been exaggerated and lack the support of empirical research. Employment benefits are even smaller in the petroleum industry. At the same time, however, petroleum resources have traditionally yielded far greater direct returns and revenue, offsetting thereby some of the imbalances accruing from low labour intensiveness. In addition, demands on Government by way of infrastructure provision tend to be far greater in the mining industry than in the petroleum industry.



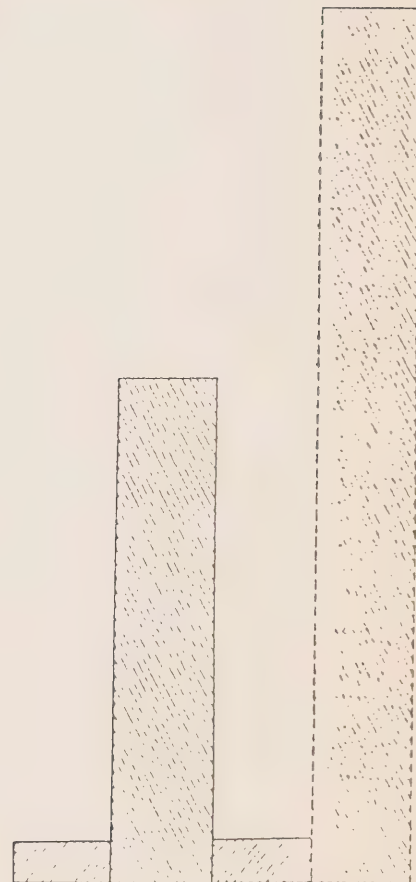


The present Government of British Columbia assumed office in the fall of 1972. In that year the production value of mineral resources amounted to \$530,573,000. Mineral resource revenue, including the 15% mining tax at nearly \$6 million, added up to \$8.3 million, or 1.5% of that value. The production value of petroleum resources amounted to \$105,645,000 and petroleum resource revenue, including land sales at \$20 million, added up to \$44.8 million, or 43% of that value. The annual total of mineral revenue at \$53.2 million represented approximately 8% of the total value of mineral production at \$636,218,000.

The production value of British Columbia's mineral resources rose to \$997,549,000 in 1973. This was largely a function of increases in copper production and in the prices of most metals produced in the Province. Mineral resource revenue, again including the 15% mining tax at \$6 million totalled \$8.7 million, or less than 1% of that production value. Despite a significant reduction in crude oil output due to depletion, the production value of petroleum resources rose to \$116,031,000 and, notwithstanding a drop in the income from land sales to less than \$18 million, petroleum resource revenue increased to \$46.6 million or 40% of that production value. The total of mineral revenue in 1973 at \$55.3 million represented less than 5% of the total value of mineral production at \$1,113,580,000.

Immediately upon coming to office in 1972, the new Government of British Columbia initiated studies of returns from the depletion of the Province's non-renewable resources. In keeping with the above data, it became quickly apparent that returns from mining production were dismally low at 1.5% of production value. The Hon. Leo T. Nimsick, Minister of Mines and Petroleum Resources, made it clear to the mining industry and the public at large that the Government, as the owner and landlord of the Province's resources, fully intended to obtain a greater share of resource value. The experience of 1973 merely served to underline the growing disparity between resource value and resource return. In the light of this phenomenon Mr. Nimsick announced that mineral royalties would be phased in as follows, (a) no royalties in 1973; (b) partial royalties in 1974; and (c) full royalties as of 1975.

In keeping further with the rapid depletion of British Columbia's crude oil reserves, and in anticipation of dramatic price increases for petroleum, the Government introduced Bill 32 in the Spring Session of 1973. This Bill contained amendments of the petroleum royalty provisions of the PETROLEUM AND NATURAL GAS ACT. While natural gas royalties remained unchanged until pricing problems could be solved, the ceiling on petroleum royalties was raised to a maximum of 40% of



MINERAL RESOURCE REVENUE	8,295,000	8,731,000
PETROLEUM RESOURCE REVENUE	44,821,000	46,555,000
TOTAL REVENUE	53,117,000	55,285,000
MINERAL RESOURCE VALUE	530,573,000	99
PETROLEUM RESOURCE VALUE	106,645,000	1
TOTAL VALUE	636,218,000	1,1

1972 | 1973

illegible  
on  
original

production. At the same time, royalty exemptions were provided for the first three years of production by discovery wells. Step-out wells in new petroleum pools were granted a generous three-year reduction in royalty obligation. The new petroleum royalty schedule of June 1, 1973 provided for a provincial average royalty of 28% of production.

The Spring Session of 1973 also saw the passage of Bill 64, the MINERAL LAND TAX ACT. Bill 64 was introduced in recognition of the extensive private ownership of mineral rights by persons other than the Government. Some 8,000 mineral claims, covering approximately 300,000 acres of valuable mineral lands had been granted through the years. These were subject to a tax of \$0.25 per acre under the TAXATION ACT. Moreover, mineral rights to some 8.2 million acres had been granted to various railway companies in the early history of the Province. These were not subject to any taxation at all. Hence, the taxation of crown-granted mineral claims was transferred from the TAXATION ACT to the MINERAL LANDS TAX ACT and was combined with the taxation of mineral rights held by the successors of the early railway companies.

The MINERAL LAND TAX ACT provides for taxation at two levels. First, mineral lands are subject to an acreage tax ranging from \$0.25 to \$1.00 per acre. By far the greatest number of mineral properties is subject to the levy of \$0.25 per acre. These are non-designated mineral lands whose mineral content has not been sufficiently established, and which do not exceed 50,000 acres in combined area per owner. Second, designated mineral lands are subject to an acreage tax of \$2.00 per acre and, in the case of actual production, to a tax not exceeding 25 mills on every dollar of the assessed value of a production tract. The Assessment Regulations under the MINERAL LAND TAX ACT provide for the valuation of production in a tract during the year prior to an assessment year. Hence, 1974 production constitutes the basis for mineral land taxation in 1975.

In the fall of 1973 the Government of British Columbia once again focused attention to returns from the production of natural gas. Public hearings, conducted by the newly-established B.C. Energy Commission, confirmed Government conclusions that natural gas was seriously underpriced particularly in the export market. Because of this natural gas royalties could not be raised. The problem was solved in a series of dramatic steps. A crown-corporation was established to become the provincial purchasing and sales agency. B.C. Petroleum Corporation offered all natural gas producers a new contract which contained substantial field-price increases. Nearly all producers accepted. Federal resistance to a higher export price for natural gas was overcome by an increase in the cost



to British Columbia consumers which, under federal regulations, had the automatic effect of raising the export price. Since approximately 60% of the natural gas production in British Columbia is exported, revenue from this production was substantially increased. Further revenue gains will result from the Canada-wide increase in the export price of natural gas which, for British Columbia, will take effect on November 1st, 1974. This, in turn, enables the Government to improve the economics of exploration by the offer of higher prices for the production of a new natural gas.

By spring of 1974 dramatic changes had also occurred in world crude oil markets. An intricate set of international, political and economic circumstances brought the prospect of serious petroleum shortages. Imported oil became extremely costly and Canadian export prices rose correspondingly. The Federal Government introduced an export tax to offset the increased cost of imported petroleum. The domestic price of crude oil was kept at previous levels until April 1, when it was permitted, by agreement with the Provinces, to rise to \$6.50 per barrel. This was necessary to reduce the cost of the subsidy to Eastern Canada for petroleum imports, and to make for greater acceptability in the export market of prevailing world prices for the import of Canadian crude oil.

The Government of British Columbia moved swiftly to secure for the Province a proper share of the income accruing from this domestic price increase. The passage of the PETROLEUM AND NATURAL GAS AMENDMENT ACT permitted the introduction of a new royalty schedule. Under the June 1, 1974 Petroleum Royalty Regulations the ceiling on crude oil and condensate was set at a maximum of 60% of production, providing for a provincial average of about 50% of production, notwithstanding this increase in Provincial revenue, petroleum producers also experienced a substantial boost in their income. Moreover, the three-year royalty exemption for petroleum discovery wells was retained as a further incentive to expand British Columbia's dwindling petroleum reserves.

The dramatic occurrences in the energy field during the winter of 1973/74 had a significant effect for British Columbia's coal industry. Interest was sparked in coal as a base for the production of electricity, gas, and a wide range of chemical by-products. At the same time, this interest assisted in boosting the export price of metallurgical coal. This, in turn, permitted the producers and the Province to share in the additional income. A new COAL ACT was introduced in the Spring Session of 1974, which set coal royalties at a minimum of \$1.00 per ton of metallurgical coal and \$0.50 per ton of thermal coal in 1974. The corresponding levels are \$1.50 and \$0.75 after 1974. These royalty provisions have been incorporated in the new Coal Royalty Regulations.

Legislative efforts regarding mining revenues also came to fruition in the Spring Session of 1974. The introduction of Bill 31, the MINERAL ROYALTIES ACT, sparked heated debate within and outside the Legislative Assembly. Much of the debate focused on the financial impact of the legislation, with the mining industry claiming much higher royalty obligations than were estimated by the Minister. Notwithstanding the pressure of the industry, the MINERAL ROYALTIES ACT was given passage by the Legislature, and was proclaimed as of October 1, 1974. Its provisions take effect as of January 1, 1974, however.

The Act provides for royalty calculation according to two rates, a basic rate and an incremental rate. Basic royalty will be 2.5% of net-smelter returns after transportation costs in 1974, and 5% in subsequent years. In case of low prices, the basic rate may be reduced by 1%; Provincial processing such smelting or refining may reduce the rate by a further 1%. Incremental royalty is payable only if net-smelter returns exceed 120% of the basic value of a designated mineral, and consists of one-half of such excess. Basic value determinations and mineral designations are made by Cabinet order.

The MINERAL ROYALTIES ACT has immediate application to four designated minerals: copper, lode gold, molybdenum, and silver. Other minerals such as lead and zinc will be designated in the near future. The Basic Value Regulations provide for automatic basic value adjustments each year by linkage to the Wholesale Price Index (Canada). Half of any annual movement in this index will be applied in this fashion, accounting thus for inflationary mining cost increases. Moreover, a significant three-year inflation in the basic value of minerals mined in new operations will assist pay-back by reducing incremental royalty at times of high prices, and by reducing basic royalty at times of low prices.

When Bill 31 was introduced the Minister estimated 1974 revenue to amount to \$25 million. At the time of proclamation this estimate was up-graded to \$30 million, largely due to the unexpected stability of copper prices at relatively high levels. Together with all other mineral revenue, this will provide a total of approximately \$125 million in 1974. With the first year of full operations under the MINERAL LAND TAX ACT in 1975, Provincial revenue from all mineral production will add up to approximately \$150 million, plus a like amount for revenue generated by the British Columbia Petroleum Corporation.

It will be some time before the full impact of these revenue changes in British Columbia will be analyzed for their full impact. The Department of Mines and Petroleum Resources is engaged in a constant process of evaluation. In this it is assisted by other agencies and departments. Early indications are that the Province is flourishing as never before. So long as the Government of Canada refrains from introducing punitive

tax measures, mineral producers in British Columbia will continue to flourish with the Province. Nevertheless, the Government is not satisfied with a mere reduction in the imbalance between mineral value and mineral revenue. Convinced that there are many ways in which this value can be added to, it has commenced intensive studies of the entire field of mineral production with a view to increasing industry-based employment and other benefits. Before long these studies will lead to policy decisions with long-term implication for the economic development of the Province and Western Canada. British Columbians are well on their way to obtain maximum returns from the depletion of their non-renewable resources.

## REPORT OF THE TASK FORCE ON MINERAL VALUATION

J. T. Fyles

The Task Force met in Toronto on March 14 and in Moncton on October 5. Discussion and modification of the non-ferrous metal mine questionnaire for obtaining production statistics continued. Use of the questionnaire has been delayed because of concern that many companies will be unable to respond adequately to such a standard questionnaire. Testing in 1973 and discussion with the industry through its representatives at the March meeting, and the Mining Association of Canada, has lead to some improvements. The need for more realistic statistics based on the quantity and value of the production of mineral commodities at the mine site is urgent. It is therefore recommended that:

- (1) the questionnaire be finalized in its present form;
- (2) Statistics Canada be requested to send it to all non-integrated non-ferrous mining companies as a separate sheet with the 1974 Annual Census of Mines;
- (3) Statistics Canada be requested to incorporate the questionnaire or some modification of it in the 1975 Annual Census of Mines; and
- (4) the Task Force continue to work toward obtaining comparable statistics from the integrated mining companies.



THE RATIONALE OF CROWN CORPORATIONS  
IN THE EXTRACTIVE INDUSTRIES

by

JOHN BURTON

Special Projects Co-ordinator - Planning and Research  
Executive Council - Government of Saskatchewan

The choice of this topic reflects the fact that governments, both provincial and federal, have become actively involved in recent years in the mineral industry and that this situation is likely to continue in the foreseeable future. It reflects fundamental shifts in the philosophy of government and public attitudes towards the role of the State in the economy. At one time, the role of the State was perceived to be simply a regulatory one, or, in other words, a policeman's role. In more recent years, the idea of "planning" has become commonly accepted in the sense of government responsibility for the course of economic affairs and economic well-being. Now we have a further development. Governments of all political persuasions have embarked on a variety of programs involving direct public investment and ownership in a wide variety of enterprises with particular attention on the extractive industries. This has come about in part due to the recognition of the inadequacy of regulatory control in dealing with multinational resource firms.

Possibly it might be useful to start with a descriptive outline of what has been done in Saskatchewan. While Saskatchewan has been well known for its ventures in public enterprise, a relatively small portion of such activity has been related to the extractive industries. However, there are several examples, some of recent origin, which do deserve attention.

1. The Saskatchewan Power Corporation was given a mandate for distribution of natural gas service in the province. Its efforts in this regard have been an outstanding success and today, S.P.C. serves 171,000 customers in 389 communities. One of the objectives of S.P.C. has been to provide natural gas service at the lowest possible cost to consumers. Associated with this program is a policy of dedicating natural gas supplies in Saskatchewan to provincial needs. Because of limitations on natural gas supplies within the province, approximately one-third of our requirements are imported from Alberta. In order to overcome supply problems in a manner consistent with the overall objectives of the program, S.P.C. has been active for some years in exploration for and proving up of natural gas reserves and has also purchased gas reserves in place.



2. Saskatchewan Minerals mines sodium sulphate at several locations in southern Saskatchewan. These are essentially brining and refining operations located at several salt lakes. This enterprise was established in 1946 to assist in the development of one of the province's natural resources. It is the largest producer of sodium sulphate in Canada. It has been a very profitable operation to the province. When this enterprise was first established, there were already three private sodium sulphate operations in the province. They have continued in operation since that time. However, a policy was followed of reserving future developments for public enterprise. This policy was abandoned for a period of years following 1964 and several new private sodium sulphate operations were developed. The resulting over-supply from this situation, together with the development of a new operation in Alberta, resulted in a glut on the market and depressed prices for some years.
3. Saskatchewan Minerals also operated a clay products plant at Estevan. This plant was purchased in 1945 from a private company which had closed it and it was reopened as a Crown operation with the triple objective of developing the province's raw clay resources, avoiding high transportation costs and supplying bricks for construction, and providing employment in the local community. While it encountered many technical problems, and was only marginally successful from a financial standpoint, it did supply a large quantity of brick for construction in Saskatchewan and helped to hold down brick costs over the years by competing with producers from outside the province.
4. Saskoil was established by legislation early in 1973. It was empowered to engage in all aspects of oil and gas activity, but at present the government's intention is to engage in exploration and drilling activity only. After the Act was proclaimed, personnel have been recruited, a small amount of productive capacity has been purchased from the private sector and initial drilling on lands acquired has been commenced after some delays due to material shortages.
5. Saskatchewan Mining and Development Corporation was established in mid-1974 with authority to play an active role in exploration and development of mineral resources in the Precambrian Shield area of Northern Saskatchewan. The Corporation is envisaged as the main instrument of new government policy which requires government participation in

all new mineral development programs in Northern Saskatchewan. The Corporation will participate actively in exploration as well as development activities and will engage both in joint ventures and its own programs as deemed appropriate. Since its establishment, it has concluded several agreements for joint ventures in the North. A major objective of the Corporation is to stimulate further mineral development in the North to overcome the historical record of a comparatively low level of mineral activity in spite of incentives and other encouragement. It is also envisaged that this Corporation will play a role in the achievement of social and economic goals of other programs designed to improve the situation of residents of Northern Saskatchewan.

6. A federal Crown corporation, Eldorado Nuclear Limited, has been active in the mining of uranium in the Uranium City area since the early 1950's.

I think we must ask the question - why have governments particularly provincial governments, become much more aggressive in this field in recent years? It is no surprise, of course, that the major stimulus has come from provincial governments in view of their constitutional jurisdiction over resources, with the notable exception of uranium. Some answers I would suggest to this question are as follows:

1. The financial capability of the provinces to invest in such commercial undertakings has increased greatly. While the reluctance of governments to take initiatives in developing mineral resources was in some cases philosophically based, it would be fair to say that in the past a major restriction applying to most governments was financial capability. In some instances, governments that may have been interested in direct investment in mineral development were already totally extended financially with other program commitments.
2. A growing awareness of the role of government intervention in overcoming regional disparities. This was followed by a further identification of the potential role of mineral resources in achieving objectives.
3. A greater public awareness of the importance of resource processing in the achievement of economic goals and in achieving a greater regional balance in the Canadian economy. It is now passé to note that a great many of our resources are exported from Canada, either in raw form or in only the most primary of processed forms.

4. The sharp increase in commodity prices in the past two years, including many non-renewable resources, has focussed attention on the importance of commodity prices in the economy, particularly those sectors of the economy which are more dependent on the production of raw materials and primary forms of production.
5. There is also a growing awareness of the implications of residual responsibilities faced by governments. The usual pattern has been that the private sector has controlled the development phase of a resource project bearing, first of all, the cost of the development, offset in part by government incentives or tax concessions, and it has then had the opportunity of reaping the profits from the project. However, some years down the road, governments may be confronted with demands to take action to support an industry which has become marginal from an industry standpoint and government must assess the costs and benefits involved in providing assistance. Governments are increasingly being asked to bale out an industry with problems, but the taxpayer, through the government, has received minimum returns from the exploitation of the resource. The question is asked - why should the government not be in on the project and its profitability from the beginning if it is going to be expected to pick up the tab later on for keeping it going?

I have attempted to analyse the immediate reasons that have brought government into mineral resource development. I would now like to assess as objectively as I can the rationale and the reasoning involved in support of public activity in resource industries. In doing so, it must be kept in mind that the discussion of this subject is one which often involved a mixture of reason and passion. The particular mix of the two may depend upon a number of factors beyond the control of reasonable men and women such as all of us are. The assessment of the mix often depends on our own biases. The question of public ownership, whether it has to do with resource industries, or with other sectors of the economy, is one which has been debated at great length. I think it would be most sensible to start off by admitting that there are advantages and disadvantages to any form of ownership. Regardless of one's point of view, it is necessary to recognize the pro and con points for either public or private ownership.

The major reasons in support of Crown corporations in the extractive industries include:

1. A source of revenue for the public treasury from the exploitation of resources. Revenues gained from such ventures may be used to assist in



financing other public programs. That suggests economic planning on a broader scale than the particular sector we are now examining. It involves a broader assessment of needs, costs and benefits in the economy. Indeed, it may be observed that many resource companies are taking a broader perspective of their own interests and are investing surplus cash in other enterprises, many of which are only remotely connected with the central activity of the corporation. Eric Kierans, in a stimulating document, "Report on Natural Resources Policy in Manitoba", has also identified the desirability of capturing for the public sector the quasi rent or super profits on resource production. He bases his approach on classical economic analysis but starts out from the premise that "the landlords of Manitoban resources are Manitobans". In his analysis, Kierans recognizes that the impact of his proposals would likely dampen investment by the private sector in resource development. Thus, he concludes that it will be necessary for the public sector to make up any deficiencies created thereby in the economy, and identified the Crown corporation as the principal instrument to be used in a policy of public involvement in the mining industry. While Kierans paid special attention to the area of "super profit", there is also the area of ordinary profits, which, in classical economic analysis, is identified as the return to the entrepreneurial factor. By definition, if a policy is followed of allowing the private sector to undertake resource development, a rate of return must be allowed which is greater than the interest value of the capital invested. This becomes the profit factor in the economic equation. It is legitimate from an economic standpoint and a firm can rightfully expect such a return for its contribution to the development of the enterprise beyond the contribution involved in the other economic factors of labour and capital. But, who is the owner of the resources? It is true that there is a mixed situation across Canada in terms of Crown ownership of mineral rights and freehold ownership of mineral rights. However, if one accepts Kierans basic premise that the people of a province are the landlords of the resources, then it is legitimate to consider whether people, as owners, through their governments, should develop those resources for their own benefit. If the province, acting on behalf of the citizens of that province, can mobilize the necessary labour, capital and entrepreneurial skills such as management technology, etc., then it is perfectly rational and legitimate for the province itself to under-



take resource development. On the other hand, a province may also reach a rational decision that because of difficulties in mobilizing any one of the factors mentioned, or because of other demands on available resources, it is preferable to allow the private sector to develop a resource. In making such a decision, however, the province must allow to the private sector a fair return, not only on the capital invested, but on the entrepreneurial factor.

2. To provide a service or commodities to citizens at a minimum or reasonable cost rather than at a level based on profit maximization. Earlier I gave two examples in the Saskatchewan Crown corporation scene where this principle was a consideration.
3. To ensure adequate conservation of a resource in order to provide for the needs of citizens. This can involve dedication of supply. In Saskatchewan, one example of this type of concern is in the field of oil and gas. There is a fundamental point involved. Normally, a firm engaged in resource production is concerned with profit maximization. This is often on a short-run basis that involves extraction of the resource in as short a time span as is feasible. From the firm's viewpoint, this is a rational approach. Some firms, of course, are able to deal with their corporate planning on the basis that some resources available to it may not be developed for a long period of time and that profit maximization may be considered from a very long-run point of view. On the other hand, the concern of a government is not only with the profit level of its Crown corporations, but with the economic needs and benefits of its citizens. This concern may dictate a slower pace of activity for a particular operation than would be the case if it were under private control. In both cases, we are dealing with a rational approach. The difference is in the scope of concerns and considerations.
4. To ensure the development of resources and to ensure that the benefits of resource development accrue to the people of the area, province or country involved. As I have just noted, there are cases where resources are not developed at a particular point in time, not because it is not economically sound to do so, but because the corporate planning timetable of the firm or firms in control of the particular resource does not call for development at that particular time. Again, we have a conflict of interest which is based on rational considerations on the part of both the firm and the political jurisdiction. In addition, there is general awareness in Canada today of the importance of resource processing. I do not need to go into detail on the manner in which many

resources are extracted from a particular area, concentrated and possibly refined or processed into a primary manufactured form and then shipped to some other part of Canada or to another country for future processing. As a result, we have not been able to take maximum advantage of natural resource development. In some cases, from a corporate standpoint, it is a rational decision to develop a particular pattern of handling of a resource. Again, we have a conflict of interest between the interests of the political jurisdiction and the interests of the firm, which in both cases is based on a rational approach. I am not suggesting that some of the conflicts that I have identified are not capable of resolution. In some cases, they can be resolved in a rational way and to the satisfaction of all interested parties. But, the potential for problems is obvious, and it is now acknowledged that the interests of the people of the community, whether local, provincial, or national, must take priority.

5. To save the declining industry from demise, thus avoiding difficulties for communities, people and other related economic activity. There are a number of examples of industries which were either in doldrums or were in the latter stages of life where it was necessary for government to intervene actively in order to save the industry and other related interests by acquiring direct ownership. The Cape Breton coal industry is probably a good example; the British coal mining industry also serves as a classic example in many respects.

Once the decision is made to involve the public sector in resource development, the question then arises - what is the most appropriate instrument to use? The Crown corporation has become the commonly accepted instrument for most public commercial activity. It avoids conflicts of interest with the regulatory functions of government departments, particularly if public enterprises are going to live side by side with private endeavours. A Crown corporation is a legal entity in the same way as a private corporation and can carry on its operations with the necessary flexibility and independence to enable it to carry out its terms of reference. Some public endeavours may be carried on by government departments but as a rule, there must be special circumstances to justify this course of action. Another alternative would be to establish a Crown owned or controlled company under the Companies Act or Corporations Act. A new phenomenon which is gaining increasing acceptance is the joint venture. This can be advantageous to all concerned by pooling advantages available to both public enterprise and private enterprise, while, on the other hand, overcoming some of the disadvantages involved in a totally public or private type of enterprise. Joint ventures are commonly established either through the establishment of a company with shares held

on whatever basis is agreed upon or through a partnership arrangement with the public share owned by a Crown corporation and the private share held by the private partner through its own corporate structure.

I would now like to discuss a number of problems and considerations that arise out of basic decisions. The first is the question of divorcing Crown corporation activities from other government functions which sometimes involve access to corporate information which is considered to be confidential. This is not an easy problem to resolve when one considers that past arrangements, right or wrong, involving the confidentiality of information submitted to government for regulatory purposes involved both a moral and contractual commitment to maintain that confidentiality. In some cases, governments may have made bad deals in the past and may have abdicated their responsibility in exercising trusteeship over resources. I think, however, a distinction can be made between the old situation and the new. If one accepts the thesis that the people are the true owners of the resources, then they can set the terms on which a private entrepreneur might exploit those resources, and if no agreement is reached, there is no deal. I think this whole area is one on which further discussion and negotiation is necessary.

The second point I would like to raise concerns the question of government sharing of risks in resource development. In my view, if government is going to get into the picture actively, then it should share the risks as well as the benefits. I might say that new Saskatchewan programs have been developed on this premise. I would also think that there are many cases in which the private sector would be happy to have government participation with the resultant sharing of risks in an endeavour.

There is also the question of accountability and co-ordination of goals. The principal instrument used to ensure adequate accountability has been a legislative committee which examines the reports of Crown corporations. This device is used in more than one political jurisdiction and in my view has been successful in protecting the shareholders' (people's) interests and in bringing pressure to bear on the corporation to improve its performance and to achieve the goals established for it. In Saskatchewan, a feature of Crown corporation structures has been that most of them have had a Cabinet Minister as chairman of the Board with possibly a second Cabinet Minister on the Board. Other members of the Boards often included either key civil servants or members of the public representative of particular interests. Capital financing has been done either through advances from the Minister of Finance or through loans to the corporations with money borrowed on the credit of the province.

Increased government financial capability has better enabled it in recent years to cope with the problem of mobiliz-



ing the resources necessary to undertake large developments. In this regard, it is useful to point out that under the existing scheme of things, many small and medium sized companies have to rely on large firms for the necessary financial and technical capability. Often such a firm found itself at a severe disadvantage in reaching an agreement with the large firm. Now that some of them have had experience with joint ventures with government, they often prefer to deal with government on such ventures rather than with large multi-national resource companies.

We are entering a new phase of our history in our resource development. There is a new awareness of the importance not only of developing resources, but of how they are developed, who controls them and at what pace they are developed. By definition, this must involve government and the public sector. Governments traditionally restricted their role to regulatory control. In this framework, they had no basic problem in curtailing resource production when this was necessary but they have had very little control over expansion unless sizable incentives or concessions were granted which destroyed the premise of restricting the developer to a reasonable rate of return. The international dimensions of many aspects of resource activity have also forced governments to re-examine their role to better ensure their capability to carry out their responsibilities.

Government is here to stay as an active partner in the resource development field. The extent of its involvement and the scenario for future events remains to be seen. We are now in the transitional period in adjusting to this new regime. Public enterprise and Crown corporations are not the be-all and end-all of resource development. Public ownership is a means, not an end. Much depends on the wise development of public policy and the wise use of instruments of policy. Crown efforts are not automatically destined for either success or failure. A host of factors may play a role in determining the success of such ventures. The fact is, however, that government intervention in the economy is here to stay and all of us will have to adapt to a new approach to things that in some cases will involve painful adjustments. In some respects at this point in time, the answers and format of things to come are not as yet clear. But, the basic course of events has been charted and we are now commenced on the journey.

September 27, 1974.



MEMBERS OF THE  
 QUEBEC METAL MINING ASSOCIATION  
 QUEBEC ASBESTOS MINING ASSOCIATION

1972 CONTRIBUTION TO PUBLIC FINANCES

A- <u>Taxes Paid Directly</u>	(Million \$)	
1- <u>Municipal and schools</u>		
1.1 School Taxes	5.2	
1.2 Municipal Taxes	<u>5.3</u>	10.5
2- <u>Provincial Taxes-Quebec</u>		
2.1 Gasoline Tax	7.7	
2.2 Retail sales Tax	5.3	
2.3 Tax on Capital and Income	6.3	
2.4 Mining Duties	11.7	
2.5 Employee Benefits Taxes	<u>8.6</u>	39.6
3- <u>Federal Taxes</u>		
3.1 Sales Tax	5.7	
3.2 Income Tax	18.8	
3.3 Unemployment Insurance Levy	<u>1.7</u>	26.2
Total Taxes Paid Directly		<u>76.3</u>
B- <u>Taxes Paid Indirectly</u>		
4- <u>Provincial Taxes-Quebec</u>		
4.1 Income Tax - employees	17.5	
4.2 Tax content of new investments	<u>27.0</u>	42.5
5- <u>Federal Taxes</u>		
5.1 Income Tax - employees	20.8	
5.2 Interest and dividend	.6	
5.3 Tax content of new investments	<u>30.0</u>	51.4
Total Taxes Paid Indirectly		<u>93.9</u>
1972 Contribution to Public Finances		<u>170.2</u>
1972 Gross Production (Metallic and Non-Metallic)		629.8
Percentage of Contribution to Gross Production		<u>27.0%</u>

## COMMITTEE No. 3

### SOCIAL

Committee No. 3 covered a broad range of topics related to social and physical environmental problems, manpower requirements and education for the mineral industry.

Two areas were discussed in detail.

#### A. ENVIRONMENT

The need for an environmental impact statement was recognized as a necessary prerequisite to the development of a new mine location. Although some difficulties are still being experienced because of the lack of clearly stated objectives, a marked improvement in government-industry cooperation in solving the many technological problems has been noted.

Special attention was directed to a proposed Federal government program termed the "Demonstration Pollution Abatement Technology Development Program" and its possible application to a number of technological problems in the treatment of mining wastes. The proposed program is commended in that the results will be made available to the industry as a whole and that the dissemination of developing technology will be encouraged.

#### B. MANPOWER REQUIREMENTS

1. The Canadian Institute of Mining and Metallurgy presented the results of their study entitled "Human Resources, Management, Education and Training for Canada's Mineral Industry

Great concern was expressed as to Canada's ability to meet the manpower demands of new and projected mining developments. The forecast lack of skilled and professional workers will be difficult to overcome and the 5 to 6 year lag time for training will determine the rate of mineral development. Governments and industry are urged to direct their efforts in solving this problem.

2. The problem of recruitment and retention of workers in isolated mining communities is a particular problem facing the industry as Canada expands into the frontier areas. The high labour turnover and consequent lower productivity and increased costs greatly reduces Canada's competitive position in domestic and international markets.

The Mining Association of Canada presented a review of their findings on "Labour Turnover and Shortages in the Canadian Mining Industry".

Mr. Paul LePage, United Steelworkers of America gave a thorough analysis of the problem in a paper presented to the Committee. The need for high quality infrastructure development, improved working conditions and government action through special tax incentives to the workers were clearly identified.

It was recognized that a close cooperative and sincere effort between government, industry and labour will be required to overcome this pressing problem.

J.C. Smith

J. McKillop

October 7, 1974.

## LABOUR TURNOVER AND SHORTAGES IN THE CANADIAN MINING INDUSTRY:

### An analysis of the principal statistics

The purpose of the study was to obtain information on the magnitude and possible causes of the labour turnover and shortage problems facing the Canadian mining industry in 1974.

The study found that the average turnover of unskilled labour for mines participating in the study was 127.8% in 1973. The corresponding figure for skilled miners was 49.8%. It is estimated that the cost of hiring and training new employees may cost the mineral industries in Canada as much as \$48,000,000 in 1974.

Mines participating in the study reported an average shortage of 6.4% of the total unskilled labour force, and a corresponding skilled miner shortage of 4.7%. The average production loss due to labour shortage in participating mines was 8% of capacity at the time of reporting. If the labour shortage persists, revenues of up to \$320,000,000 could be forfeited by the industry in 1974 in terms of decreased production, and assuming a gross production value of \$4 billion.

The labour turnover and shortage problems are far worse in British Columbia than in other major mineral producing provinces. The problems appear to be least severe in Quebec. All sectors of the mining industry are affected by the problem, as are firms of all sizes.

Hardest hit appear to be medium sized mines employing 200 to 500 people, located between 50 and 100 miles from a major population centre. The study found that most of these mines have extensive community facilities, such as subsidized housing, restaurants, sports centres, T.V., radio, shopping centres and churches (and presumably a modest supply of attractive single young women). Many of the mines in communities with less extensive facilities have less severe problems than does this group. It would appear that the answer to the labour problems does not lie in the indiscriminate investment in new community facilities.

The opinion of many operating managers is that the source of the labour problems is external to the mines. Increased mobility of young workers and the easy availability of welfare payments are frequently cited by them as the major causes of high turnover. However, they are also of the view that the industry has not identified itself as offering a challenging, safe, well paid career opportunity for young people.



These findings suggest that further study of labour problems, concentrating on labour attitudes, is warranted. Clearly, the present problems are extremely costly to the industry and to the community as a whole and may well intensify. The solution to them does not appear to rest solely in the hands of individual mines, because the problems are general to the industry and the mining communities. It may be that the answer lies in changing the attitude to the industry of both current and potential employees.

The purpose of further study would be to provide information on labour attitudes for the Mining Association, Government, and individual firms in the industry. This information could be used as the basis for formulating and implementing recruitment policies and employee retention policies.

Future study should focus on three groups of personnel:

1. Employees quitting mine employment:

- why are they quitting?
- where are they going?
- under what conditions would they return to the industry?

2. Employees working in mines:

- why do they work in the mine environment?
- what could be improved in the job, mine, and community?

3. Potential employees at Canada Manpower:

- would they join the industry?
- would they view the industry as a long term career?
- what is their impression of the industry?
- why would they not work in the industry?

As the problems of labour recruitment and turnover are of such widespread concern, such a study seems clearly to be warranted and might best be carried out by the Mining Association through and on behalf of its member companies. The Mining Association would then be charged with presenting the findings to Government for action appropriate to their responsibilities and with reporting the findings together with recommendations to member companies.

PAUL LEPAGE

United Steelworkers of America

RECRUITMENT AND RETENTION OF WORKERS  
IN ISOLATED MINING COMMUNITIES

The opportunity to discuss with you today the recruitment and retention of workers in isolated mining communities is indeed welcome for it is a subject which involves not only government and industry but also labour.

Being sub-district director for the United Steelworkers of America in Atlantic Canada, the recruitment and retention of workers in the mining industry is of paramount concern to myself whether it should involve isolated or even non-isolated mining communities.

High turnover in manpower in the mining industry creates headaches for our union, just as it caused problems for industry and government. A local union to be effective must be an efficient operation and this necessitates well-trained and knowledgeable officers leading the local. Heavy membership turnover is hardly conducive to as much.

Just as industry itself must train its work force, so too do we educate our officers and stewards in grievance procedures and other aspects of servicing the membership. Given the time, effort and financial resources involved, we would prefer to see as little labour turnover as possible.

I can appreciate industry concern with excessive turnover in their work force. The costs must be substantial in many ways. First and foremost are the productivity losses. Also involved are: continual recruitment costs, training costs, and reduced operations efficiency.

Government, I am sure is also deeply concerned with unusual labour turnover in any industry and rightly so. Operational losses relating to job turnover must have a negative impact on the economy of the affected province which in turn can have a detrimental influence on future investment but in the industry affected and in the province as a whole. This can only lead to increased unemployment and a stagnant economy.

All of us here being familiar with the high cost of excessive labour turnover, I will not elaborate in greater detail except to say that no one benefits whenever this type of situation exists.

A healthy economy requires a stable labour force. With this there can be no argument. But how to secure and maintain a sufficient supply of productive labour is another matter. It can and does pose differences of opinion as to the best means of proceeding. And the problem becomes even more magnified where isolated work locations are involved.

My particular union recognizes that our members who live and work in areas remote from the highly populated regions and communications networks of the country have special problems. Be it the problems these people and their families face from especially high living costs, communication and travel difficulties or inadequate community facilities, their particular hardships are very real and warrant immediate attention and concern.

Realizing as much we intend to hold a special conference in Winnipeg later in October to discuss these very problems first hand with delegates from isolated mining communities throughout Canada. In attendance will be delegates from some 25 remote communities across Canada starting with Wabush, Newfoundland and ending in Whitehorse in the Yukon.

It is heartening to see that government through this particular conference topic today is spearheading an investigation of those special problems facing workers in isolated mining communities. And even more encouraging is the fact that the mining industry itself is involved in the discussion. There can be no doubt but that positive dialogue on the part of both industry and government is necessary if recruitment and retention problems are to be solved.

However, just as my organization is going to be grass-roots to acquire first hand knowledge as to the problems involved in isolated work and to gain an understanding of possible solutions as seen in the eyes of the workers affected, so too should both industry and government.

Conference of representatives of workers in isolated communities should be called and both industry and government should openly dialogue with the delegates on the question of living and working in isolated areas. But it must not end here. Concrete action toward remedying as many as possible of the problems raised must be undertaken by industry and government in consultation with labour.

While dialogue and discussion is a useful and necessary prerequisite to positive action, corrective measures should not be delayed indefinitely. Action can and should be undertaken in a number of ways. Personal income tax benefits, communications



improvements, better working conditions and social fabric re-inforcement are but a few. Before commenting upon them in greater detail though I would like to briefly discuss recruitment policies in the mining industry.

Existing recruitment practices engaged in by most mining companies today tend to emphasize wages and wage related fringe benefits. This is true of both non-isolated and isolated job recruitment. Advertisements directed specifically at recruitment of workers for isolated mining developments, however, go a step further and usually elaborate on the natural attractiveness of the area in question while holding it out to be a sportsman's paradise within a small, modern community setting.

Looking for a new life style? For family security and opportunity to advance? Want better pay? - These are but some of the captions contained in mining industry recruitment advertisements today. The details are usually equally attractive with the usual terminology being as follows:

".... Good Wages. Excellent Benefits. Security. Location in modern community ideal for the outdoors person...."

Impressive as mining industry advertisements appear though, their effectiveness is very questionable. Why?

Well, as I see it, the incentives offered mine workers in remote areas are more often than not of little advantage in real terms. While wage rates and benefits may be second to none in the industry, essential living commodities are rarely available in sufficient supply and at reasonable costs.

Living costs, including basic housing, food and clothing costs, are of major concern to all workers. But in the case of miners in remote areas there is greater cause for concern in that both essential living commodities and the usual amenities of life are so highly priced that real purchasing power is sharply reduced. This contributes directly to a lack of interest in isolated mining employment.

Incentives, if they are to effectively attract and retain miners in isolated job locations, must exist in the true meaning of the word and not simply appear inviting on the surface. Workers, by and large, will only be encouraged to travel to and work in isolated communities should they stand to gain in the long run or should employment at comparable rates of pay not be more centrally available.



Another avenue of recruitment for the mining industry, aside from its efforts through newspaper and radio advertisements, is the Federal Department of Manpower and Immigration. This agency can and does put prospective employees in contact with employers who have consulted manpower concerning their employment needs. Besides informing clients of job openings in the mining industry manpower also makes available, under certain conditions, mobility grants to assist interested workers in reaching the source of employment.

The value of this form of government assistance cannot be underestimated but neither should it be considered sufficient. Steps must be taken by both government and industry to encourage mine workers actually assisted in this manner to view the job opening on a long term basis. This, as is the case with media recruitment, requires new approaches.

More specifically, the mining industry must come up with better selling points if it is to enjoy greater success in attracting workers to mines in the isolated areas of Canada. Fishing and hunting is hardly predominant on the mind of the majority of miners in Canada who rather are more interested in clothing, feeding and sheltering their families. A good standard of living with reasonable time opportunity to enjoy the fruits of labour with their families is uppermost on the minds of our membership. And a glance at resolutions passed at steelworker policy conferences will quickly substantiate as much.

An ideal selling point, therefore, in the attraction of a work force would be to guarantee prospective employees just that - an above average standard of living and sufficient opportunity to enjoy it in a family setting.

You may well ask how this can be done given the geographic setting of isolated mining developments and industry concern with adequate return on investment. Well, the returns realized through improved productivity resulting from increased worker morale and less work force turnover is but one means of providing as much. Greater government involvement and assistance in the development of remote mining communities is another.

Another approach the mining industry might adopt to boost recruitment efforts is greater encouragement of family recruitment. Given today's emphasis on women in the work force this proposal should hardly be given mere lip service. Women can and should be trained to carry out many activities in the mining industry.

In Sweden, a country with remote mining communities comparable to our own, it is not uncommon to see women directly engaged in the mine operation. They are employed in such diverse occupations as underground truck drivers, laboratory technicians,

and cafeteria helpers. In this way not only are family incomes supplemented but workforce recruitment efforts are facilitated.

And as more of these opportunities present themselves, more and more miners will opt for bringing their families into isolated mining communities.

However, this will necessarily entail greater government assistance to ensure that these same isolated mining communities are able to provide essential educational, health, day-care, recreational, cultural and other community services. Only as isolated mining developments become communities in the full sense of the word will recruitment problems ease.

And that remote mining developments should become communities offering extensive services and facilities is only right. Mineral development must benefit both economically and socially the people of the area in question. It must permit the people of the area to enjoy services and amenities comparable to those available in the rest of Canada in regard both to standards and costs.

The native peoples must be involved. And living in close proximity to the mining development they can be an ample source of manpower. Once trained and motivated, they constitute a productive and stable labour force. However, wherever they are not so inclined, every effort should be made not to disrupt the normal life pattern of the native people.

In the final analysis, company reputation will be a major factor in the success or failure of its recruitment efforts.

If a company is in good stead with its employees through their union and stresses family recruitment in a modern community setting, manpower recruitment will pose few problems and the workers in question will be far more productive and less inclined to mobility. On the other hand, poor labour relations policies on the part of management and indifference to the total welfare of its employees both on-and-off the job site breeds discontent. And this can only lead to labour instability marked by low productivity and high turnover in manpower and recruitment difficulties.

I will turn now to the retention of workers in isolated mining communities. This requires joint action on the part of management, labour and government.

Just as incentive can play a big role in attracting workers to a particular mining community, it is also a major force in the retention of workers once recruited. This

incentive can take many forms and may vary for different workers. While wages and/or working conditions may be of prime concern to one worker, another worker may value job security more. Still others may be more concerned about the cost-of-living locally, the living environment itself, or community life and family benefits.

Wages, have been and will remain a matter involving labour-management negotiations. But the approach adopted by management in these negotiations will largely determine the level of stability in its work force. Unless workers are guaranteed a fair share of increased productivity through increased wages and benefits, they will hardly be inclined to continue in the employ of a company offering them a standard of living less than that possible elsewhere. It is essential, therefore, that isolated mining companies offer their employees the latest in dental, medical, hospital and drug plans - without cost to the employee, and provide wage rates as good or better than those offered at non-isolated mining operations.

Special cost-of-living assistance should also be made available. While cost-of-living increases have been dramatic in both isolated and non-isolated communities, the impact has been even harsher in the former. Transportation problems and limited supplies act to push prices up in isolated areas thereby reducing the purchasing power of workers in these communities. Special northern allowances are now provided by some companies over-and-above regular coal clauses. These should be encouraged and expanded.

Government has a role to play here as well. Both to induce workers to go north to work and to facilitate their retention, it should seriously consider some rate of income tax relief for residents of the north. An example would be introduction of a \$1,000 special exemption for isolated workers.

If reviewed periodically, this northern allowance would also act to remove the inequitable drop in living standards caused northern residents by the higher cost-of-living. In addition, government should investigate the extremely high cost of food and other basic commodities in many isolated communities. And wherever necessary corrective steps should be taken to adjust unreasonable charges.

The need for additional transportation allowances is also very real. Workers in isolated communities must be given the opportunity to periodically travel to major urban centres. Whether to receive specialized medical attention, purchase consumer commodities unavailable locally, or to enjoy a social excursion away from it all, transportation means at substantially reduced rates should be more readily available. With stol aircraft now being developed, government should be studying ways and means of providing this service in major remote mining communities.



Improved travel opportunities in turn should be accompanied by greater emphasis on leisure and vacation time benefits. Overtime work should be kept to a minimum and maintained on a voluntary basis insofar as possible. Better utilization of free time should be promoted through development of personal and community interests as well.

A second factor conducive to worker stability is favourable working conditions. Mining by its very nature is a hazardous, demanding and physically trying occupation which demands a special breed of worker. Over the years the industry has claimed many a victim both on the job and off. Fatal job accidents and life-shortening diseases still mark the industry even today. But despite the shortcomings career miners have not disappeared.

However, the miner of today is not so ready to accept job fatalities and mining diseases as uncontrollable industry production factors. He is vitally concerned with safety on the job and his long range state of health as well. Realizing fully that there is little sense in negotiating improved retirement benefits unless they will be around to enjoy them that part of our membership employed in the mining industry have submitted countless resolutions pertaining to worker safety and health legislation.

Among other things they expect standards which adequately assure that no employee will suffer any impairment of health, functional capacity, or diminished life expectancy. To ensure as much they demand greater union participation in decisions affecting the health and safety of all employees and the right to shut down and/or strike over unresolved safety issues.

Both government and industry can do much to improve working conditions. Government by amending their respective mining acts to provide for free annual medical check-ups for all employees engaged in mining operations as well as joint safety and health committees with meaningful functions and powers. Industry by introducing paid compulsory safety training periods for new and old employees and emphasizing job sanitation

Mining companies offering comfortable work facilities will stand a better chance of attracting and retaining a suitable work force.

Basic but important needs looked for by miners include quality safety equipment; modern change-houses with individual lockers and other personal conveniences; and suitable, adequately equipped cafeterias and lunch rooms. Insignificant as these provisions may seem, nevertheless their presence or lack of can affect job commitment by workers.



A further incentive to assist in the retention of workers and ensure minimal labour turnover involves the availability of the latest amenities of life in the community in question. Mining towns must provide shopping and recreational facilities to satisfy as many of the wants and needs of the miners and their families as possible. But these services must also be provided at reasonable costs.

It is self-defeating to offer miners higher wages and incomes in remote job locations and then expect them to lose this financial advantage through unusually high expenditures on essential and non-essential goods and services. Wherever this type of situation prevails, you will continually experience costly labour turnover. The workforce will consist mostly of miners interested only in working short but extensive periods to accumulate ample funds to return home with.

Both the mining industry and government would do well to develop a long-term interest among the miners in the different remote mining operations in Canada today. This would necessitate action on several fronts but the end results warrant the effort involved. A community of interest once having been developed, the level of labour turnover will fall appreciably.

To begin with the mining industry must introduce meaningful job security. The industry being very unstable at times itself, generally rising and falling with world supply and demand, many miners are leary of uprooting their families and taking up residence in new mining communities subject to periodic shutdowns. Job reassurance, therefore, should be provided through maintenance of an employee's income during layoffs of up to one year.

Career mining should be emphasized and encouraged. Government, in conjunction with the mining industry and union, should institute changes in their respective mining acts to permit the development of effective apprenticeship plans in the mining industry. Recognition of the job of mining as a designated trade would in itself reduce labour mobility in the industry.

Having guaranteed a miner a reasonable level of job security and the opportunity to work in a recognized trade which he will have a say in upgrading, his long term interest can be further developed by encouraging community ties. Promotion of social and cultural amenities available to the miner and his family can lead to community commitment on his part. And once established, community ties are harder to break which favourably influences labour stability. This though requires government assistance toward the development of the community at large.

Not only must it actively assist in the construction of roads, schools, hospitals and other public services but it should also assure adequate, low cost housing is available. Public transit to and from the actual job location should be made available as well.

It is very important, however, that these services be publicly rather than privately owned. Private ownership leads to paternalism and worker resentment to company control over all aspects of an employee's life, including those divorced from the job itself. Furthermore, private control on more than one occasion has ended in immediate and sudden disruption of whole communities as mineral exploitation in the area sours for one reason or other.

Any further mining community development should be the responsibility of government. And an avenue for government assistance already exists under the various new national housing act programs - particularly the new communities program, the land assembly assistance program, and the development program.

Under the development program assistance is made available to put into practice new forms of housing, new community designs, new methods of providing services, or new social relationships.

The land assembly assistance program has the following objectives:

- improvement in the supply of land consistent with need;
- reduction in the rate of increase in the cost of serviced land;
- assistance in the implementation of municipal, regional and provincial growth policies.

The new communities program being geared in part "to facilitate the balanced development of resource-based new communities" the provision of public services can be ensured. CMHC, it should be noted, may participate in the acquisition of lands for the new communities, including lands for transportation corridors and open space in or around the communities, the planning of the communities and the design and installation of services in them.

I for one believe the non-availability of adequate low-cost land, housing and services hinders the retention of mine workers. Too often in remote communities, as in urban centres, the housing stock is low and land is for the most part tied up by speculators. This trend must be overcome and NHA programs can and should be utilized toward this end.

Transportation is essential in remote communities where the actual mine employment is a substantial distance from the community. This could possibly be provided in a number of ways - commuter rail service, commuter bus service, passenger van service. Here both government and industry should pool their resources to ensure some type of common service is available.

Once having built up a strong social fabric within any isolated mining community, mining companies and government must continually act to reinforce it. The alternative is a return to high labour turnover.

All too often mining companies have treated miners as nothing more than one of the factors of production. Many miners have been left unemployed in isolated communities when mining companies have closed their operations on short notice with destruction of the social fabric of the community affected immediately setting in.

Inevitably mines do close. You might even go so far as to say that "the day the mine opens it closes" given the fact non-renewable resources are involved. This points out the need for continuous government-industry-labour consultation on mining. All having had a part in the development of a community of interest around a particular mining operation, each must act to soften the adverse effects of closure of that mine. Together we must plan for the eventual day a mine will close in order to ensure there is the least possible disruption of life.

In conclusion, let me say that mining industry problems such as the recruitment and retention of workers in isolated mining communities can be overcome. But it requires a sincere effort by both government and industry in close consultation with labour. Moreover, this effort must be marked by a willingness to change - to innovate - and a determination to undertake meaningful action where necessary.



CANADIAN MINISTERIAL CONFERENCE  
ON MINERAL POLICY

RESPONSE BY THE MINISTERS OF MINES

Ottawa, December 5, 1974

COMMITTEE NO. 1 - TECHNICAL

Recommendation No. 1 - uranium reconnaissance program.

"The Ministers agree in principle with the establishment of a uranium reconnaissance program as proposed by the Federal government provided agreements are negotiated with each province on an individual basis and without prejudice to financing of any other project.

The requirement of searching for other minerals should be considered within the framework of the program, if such is a provincial priority".

Recommendation No. 2 - uranium policy.

"The Ministers agreed that all governments in Canada should cooperate to encourage discovery and development of further uranium resources for the benefit of their nation and the world. There was no consensus in their discussion on restrictions on the private sector, foreign ownership and exports".

Recommendation No. 3 - mandatory submission of exploration results.

"That recommendations be received and taken under advisement and that each Province should proceed towards a system of full disclosure.

While expressing appreciation for the high quality and thoroughness of the work done by the task force of this committee, the meeting was divided in opinion on whether or not the task force should continue and recommend that further work of the task force be deferred until the Provinces have had time to evaluate the implications, and devise procedures for, implementation of the recommendations".



## COMMITTEE NO. 2 - FINANCIAL AND STATISTICAL

The recommendations of the committee that "the subcommittee on Mineral Statistics be retained" was endorsed by the Ministers.

## COMMITTEE NO. 3 - SOCIAL

This committee made no specific recommendations; however, the discussion emphasized the need for:

- 1) an environmental impact statement prior to the development of a new mine location and;
- 2) a sincere attempt to identify and relieve the causes of manpower problems facing the industry.

The Ministers endorsed the Deputies advice that:

"The Ministers request the Federal Department of Manpower and Immigration to initiate in cooperation with the Provinces a series of comprehensive studies on the social, cultural and economic aspects of the manpower situation as they affect the mining industry".

Further,

"The Ministers received with appreciation the report of The Committee and concluded that all parties (labour, industry and government) must take a sincere and closely cooperative approach to solving current and averting future manpower problems; particularly the forecasted lack of skilled and professional workers for new mine developments".

January 10, 1975.

Hon. Robert Andras  
Minister of Manpower & Immigration  
E.A. Bourque Memorial Building  
305 Rideau Street  
Ottawa, Ontario  
K1A 0J9

Dear Mr. Andras:

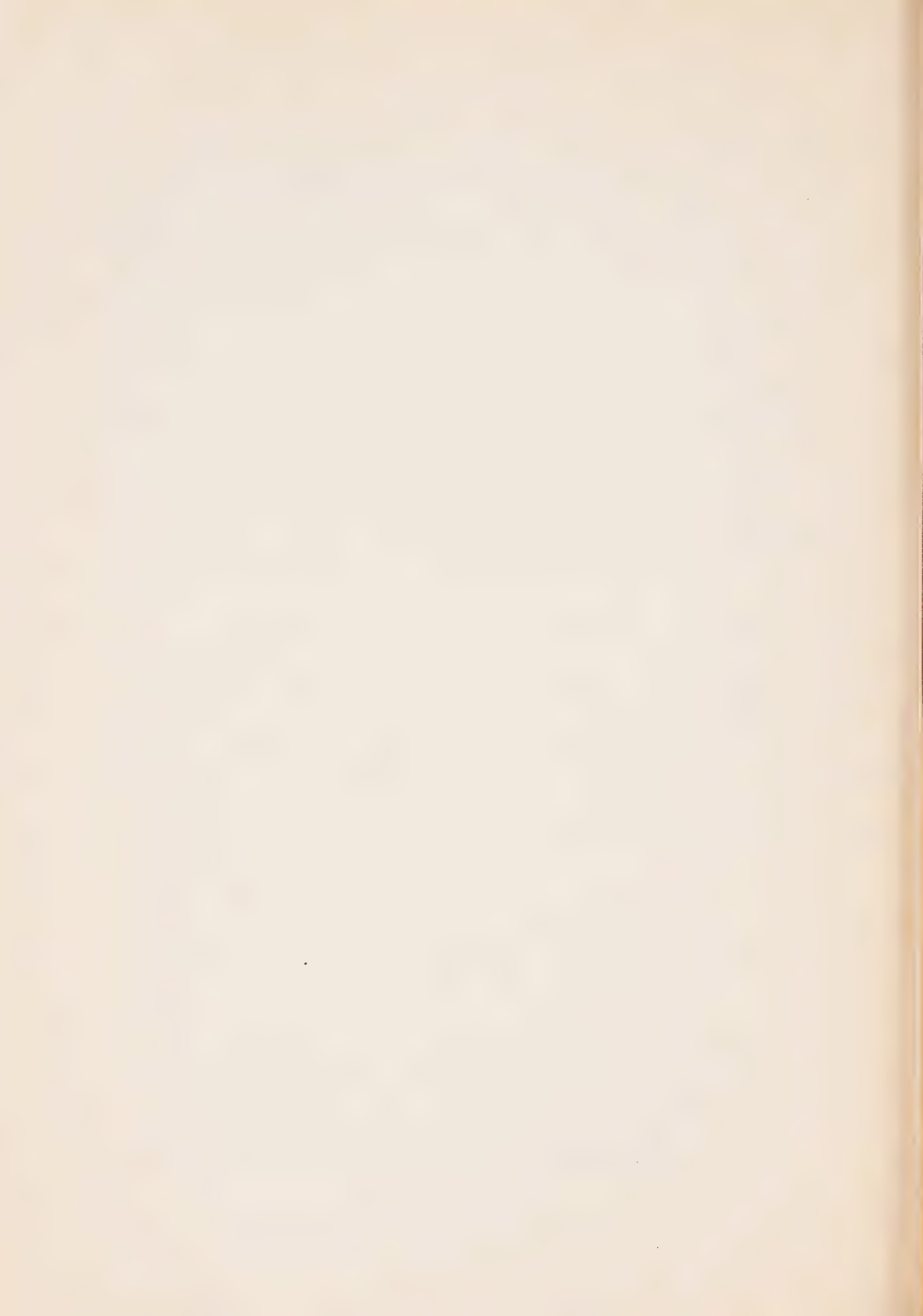
For many years the Provincial Ministers of Mines have organized an annual conference at which they met with representatives of both industry and government to discuss and attempt to resolve problems of mutual concern in the development and utilization of mineral resources. The 1974 Provincial Mines Ministers Conference was held last October in Moncton, New Brunswick with my predecessor in office, the Hon. A. Edison Stairs as Chairman. I have, therefore, assumed his responsibilities to follow up on the business of that Conference.

The Provincial Ministers met again in Ottawa on December 5th to consider the recommendations of the Conference Committees and to prepare responses to their various recommendations. The problem of recruitment and retention of workers in isolated mining communities received considerable discussion. Reference was made to papers presented by the Mining Association of Canada and the United Steel Workers of America to the Moncton Conference and the Ministers agreed that all parties (Labour, Industry and Government) must take a sincere and closely cooperative approach to solving current, and averting future, manpower problems; particularly the forecasted lack of skilled and professional workers for new mining developments.

They further agreed to request the Department of Manpower and Immigration to initiate in cooperation with the Provinces a series of comprehensive studies on the social, cultural and economic aspects of the Manpower situation as they affect the mining industry.

This letter is thus to ask that your Department assume the responsibility for carrying out the above-mentioned series of studies but first we seek your comments and/or suggestions for the approach. Our Provincial Deputy Ministers of Mines meet periodically during the year and one of these meetings could perhaps provide a forum to initiate discussion on a senior official level.







The Provincial Mines Ministers have asked me to assure you of the cooperation of the Provinces in this matter.

Yours very truly,

ROLAND C. BOUDREAU  
Minister

/gm

## CANADIAN MINISTERIAL CONFERENCE ON MINERAL POLICY

Ottawa, December 6, 1974 - Summary Report

### Taxation

The morning session of the conference was, at the request of the provinces, devoted to discussion of the implications of the November 18th federal budget to provincial management objectives for their mineral resources. These budget provisions result in:

1) non-deductibility of mineral royalties paid to the Crown in calculating federal tax payable;

2) taxation of oil and gas as if sold at a widely accepted market value rather than on a low rate within and for the benefit of residents and industries of the producing province;

3) utilization of only 1/3 of increased oil and gas revenues to a province in determining equalization payments to other provinces;

4) the creation of uncertainty among potential private investors;

5) lesser ability of provinces to determine disposition of their resources, to whom and the degree of further processing.

Ministers from all provinces recognized the unfairness to Canadians of exercising their right of ownership to the extreme for the benefit only of the people of their province, eg. N.W.T. with less than 40,000 people. They concluded that compromises were necessary and that achievement of these would be most appropriate at the meetings of the Ministers of Finance or First Ministers.

### Mineral Policy

The afternoon session resulted in acceptance for publication of a policy document entitled "Towards a Mineral Policy for Canada-- Opportunities for Choice". This delineation of an emphasis among objectives represents completion of the second phase of a five-phase federal-provincial policy development program. A co-operative work plan for Phase III-- definition of appropriate strategies and tactics to achieve the objectives-- was also accepted. Phases IV and V would be implementation of these strategies and evaluation of results and adjustments, if necessary.

## Uranium Reconnaissance Program

After expressing concern over Federal policy with respect to ownership and its effect on exploration, the Ministers agreed in principle with the establishment of a uranium reconnaissance program as proposed by the federal government, provided agreements are negotiated with each province on an individual basis and without prejudice to financing of any other project.

The requirement of searching for other minerals, as a complementary activity to the uranium program, should be considered within the framework of the program, if such is a provincial priority.

## GATT

GATT negotiations have been held up by lack of authorization from the Congress to date for the U.S. administration to begin negotiations. This approval is anticipated shortly. Canada's approach will attempt to achieve an advantage for further processing but will be in recognition of the constraints.

DISCUSSION DOCUMENT ON A 1975 ACTIVITY PLAN  
FOR THE  
CANADIAN MINISTERIAL CONFERENCE ON MINERAL POLICY

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INTRODUCTION

This document outlines an approach on a 1975 activity plan for consideration by the Canadian Ministerial Conference on Mineral Policy. The activity plan is divided into two streams:

- (1) PHASE III ANALYSIS - Development of working documents as a basis for discussion on mineral opportunities, problems, and policy implications.
- (2) CURRENT POLICY ISSUES - Provision for consultation on specific issues.

PHASE III ANALYSIS

Phase III of mineral policy review involves detailed analysis of opportunities, problems and policy implications, followed by detailed development of strategy alternatives.

Table 1 indicates the interest of provinces in a number of analytical projects underway in the Department of Energy, Mines and Resources. It is proposed that:

(1) February to June

- (a) EMR would prepare working documents based on the projects underway.
- (b) EMR would circulate working documents to provincial departments according to their stated interests.
- (c) Provincial departments would send written comments and information to EMR.
- (d) EMR and provincial officials at the deputy level and/or working level would hold special workshops on particular documents according to the interests of provincial departments. Depending on the subject, industry representatives could be invited to the workshops.
- (e) Deputies would report to Ministers on the status of discussions with particular emphasis on policy implications.



(2) June to September

- (a) An integrated report would be prepared on mineral opportunities, problems and policy implications based on the working documents and related discussions with provinces and industry. EMR is willing to assume responsibility for both the content and publication of the report. Deputies would report to Ministers on policy implications.

(3) September to December

- (a) Analytical projects would then focus on the development of strategy alternatives with a view to producing additional working documents. However, during the discussions on the first series of working documents, Ministers and/or Deputies may identify strategy elements for earlier consideration.

Within the general framework proposed above, it is also proposed that discussions at the federal-provincial working level would focus initially on:

- (1) Major Commodities: Iron Ore, Primary Steel, Copper, Nickel, Zinc, Asbestos and Fertilizers.

(2) General Projects:

- (a) Reserves and Resource Availability (supplementary working documents underpinning both A.2 and A.5)
- (b) Mineral Demand and the Outlook for Canadian Mineral Development to 2000 including Further Mineral Processing (A.1.2.3.)
- (c) Mineral Income Generation, Financial Returns, Economic Rent and Industry Viability A.4.8)
- (d) Minerals and Regional Development (A.5)

It is also proposed that discussions at the federal-provincial deputy level would focus initially on:

- (1) Mineral Policy Concepts, Framework, Process  
and Priorities (A.0)
- (2) Policy Implications of projects discussed  
at the working level.

Communique  
Canadian Ministerial Conference on Mineral Policy  
la Conference ministerielle canadienne sur la politique minerale

Ottawa,  
December 6, 1974

MINISTERIAL COMMUNIQUE ON A FEDERAL-PROVINCIAL  
URANIUM RECONNAISSANCE PROGRAM

At the December 6, 1974 meeting of the Conference, the Ministers agreed in principle with the establishment of a uranium reconnaissance program as proposed by the federal government, provided agreements are negotiated with each province on an individual basis and without prejudice to financing of any other project.

The requirement of searching for other minerals, as a complementary activity to the uranium program, should be considered within the framework of the program, if such is a provincial priority.









# PROCEEDINGS OF THIRTY-SECOND CONFERENCE PROVINCIAL MINES MINISTERS



***The Bessborough Hotel***

Saskatoon, Saskatchewan

September 14 to 16, 1975



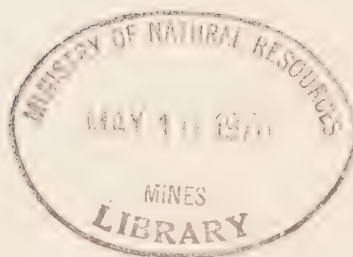


PROCEEDINGS  
of  
Thirty-Second  
Annual Conference  
of

PROVINCIAL MINES  
MINISTERS

September 14, 15 and 16, 1975

The Bessborough Hotel  
Saskatoon, Saskatchewan



## TABLE OF CONTENTS

	<u>Page</u>
Conference Committee .....	3
Ministers and Deputy Ministers of Mines .....	4
Dates and places of Annual Conferences .....	5
Programme .....	6
Agenda of Committees .....	11
Alphabetic list of Registrants .....	15
Delegates and Observers .....	20
Opening Plenary Session .....	21
Opening Address - Hon. Ed. Whelan.....	33
Welcome - Bert Sears, Mayor of Saskatoon..	38
Keynote Address - Alfred Powis.....	45
Response - Hon. Leonard Pace.....	65
- Hon. Percy Hutton .....	72
- Hon. Jean Curnoyer.....	78
ADDITIONAL .....	82
Report of Committees .....	91
Committee No. 1 .....	93
Committee No. 2 .....	133
Committee No. 3 .....	181
Closing Plenary Session.....	191
Manpower Study .....	211
Addendum - Opening Plenary Session	
Response - Hon. Jean Curnoyer...	231
Response by Provincial Mines Ministers.....	237
Post-Conference Tours of Potash Mines.....	241
Acknowledgements .....	246





## CONFERENCE COMMITTEE

### CHAIRMAN

HONOURABLE ED WHELAN  
Minister of Mineral Resources  
Province of Saskatchewan

### DEPUTY CHAIRMAN

JACK WOTHERSPOON  
Deputy Minister of  
Mineral Resources

### CO-ORDINATOR

TOM TAMAKI

### PROGRAM

DON MODE                      F. H. G. (Bud) SMALLSHAW  
DOUG KARVONEN

### ACCOMMODATION

MURRAY MacKAY

### ENTERTAINMENT

DR. LES BECK

### OFFICE SECRETARIAT AND REGISTRATION

MEL COONS

### PUBLICITY AND PRESS

DON SHERIDAN

### TOURS AND TRANSPORTATION

DOUG GILLARD

### LADIES' COMMITTEE

MRS. ED. WHELAN

MRS. JACK WOTHERSPOON      MRS. TOM TAMAKI  
MRS. GEORGEAN SHORT



DATES AND PLACES  
OF THE  
ANNUAL CONFERENCES  
OF THE  
PROVINCIAL MINES MINISTERS

CONFERENCE	DATE	PLACE
First	1945 April 14-16	Quebec, P.Q.
Second	1945 November 22-23	Toronto, Ont.
Third	1946 September 23-27	Winnipeg, Man.
Fourth	1947 September 3-5	Keltic Lodge, N.S.
Fifth	1948 September 2-4	Jasper, Alta.
Sixth	1949 September 7-10	Fredericton, N.B.
Seventh	1950 September 13-16	Victoria, B.C.
Eighth	1951 September 4-8	Saskatoon, Sask.
Ninth	1952 September 15-17	Quebec, P.Q.
Tenth	1953 September 16-18	Niagara Falls, Ont.
Eleventh	1954 September 20-22	Winnipeg, Man.
Twelfth	1955 September 12-14	Keltic Lodge, N.S.
Thirteenth	1956 September 10-12	Lake Louise, Alta.
Fourteenth	1957 September 4-6	Vancouver, B.C.
Fifteenth	1958 September 3-5	St. Andrews, N.B.
Sixteenth	1959 September 14-16	Regina, Sask.
Seventeenth	1960 October 16-19	Quebec, P.Q.
Eighteenth	1961 September 17-20	Toronto, Ont.
Nineteenth	1962 September 16-18	Winnipeg, Man.
Twentieth	1963 September 15-18	Halifax, N.S.
Twenty-first	1964 September 6-9	Banff, Alta.
Twenty-second	1965 September 12-15	Victoria, B.C.
Twenty-third	1966 September 18-21	Saint John, N.B.
Twenty-fourth	1967 September 17-20	Regina, Sask.
Twenty-fifth	1968 September 15-18	Quebec, P.Q.
Twenty-sixth	1969 September 14-17	Toronto, Ont.
Twenty-seventh	1970 September 7-10	Winnipeg, Man.
Twenty-eighth	1971 September 12-15	Halifax, N.S.
Twenty-ninth	1972 September 10-13	Edmonton, Alta.
Thirtieth	1973 September 30 - October 2	Victoria, B.C.
Thirty-first	1974 October 6-8	Moncton, N.B.
Thirty-second	1975 September 14-16	Saskatoon, Sask.





MONDAY, SEPTEMBER 15

9:00 a.m. - 5:00 p.m. -

Late Registration - Convention Floor Lobby

9:30 a.m. - 12:00 noon -

Opening Plenary Session - Battleford Room (Mezzanine Floor)

Chairman - Honourable Ed Whelan

Keynote Speaker - Mr. Alfred Powis

President of The Mining Association of Canada

Theme - 'Management of our Mineral Resources'

Responses by Provincial Ministers to the Keynote Speech

2:00 p.m. - 5:00 p.m. -

Committee Meetings

No. 1 Technical - Battleford Room

No. 2 Financial and Statistical - Salon Batoche

No. 3 Social - Terrace Lounge

6:00 p.m. - 7:00 p.m. -

Reception (Ladies and Gentlemen) - Convention Floor Foyer

7:00 p.m. - 9:00 p.m. -

Conference Dinner

Guest Speaker - Dr. John Hall Archer

President of The University of Regina

9:00 p.m. -

Entertainment and Dancing (Dress informal)



# ENTERTAINMENT PROGRAMME

SUNDAY, SEPTEMBER 14

2:00 p.m. - 5:00 p.m. -

Visit to Western Development Museum  
(Ladies and Gentlemen)

Coffee and Doughnuts served at the Museum

Transportation available from the Bessborough Hotel to the  
Museum and return

8:30 p.m. -

Get Acquainted Party - Terrace Lounge  
(Ladies and Gentlemen)

MONDAY, SEPTEMBER 15

9:00 a.m. - 10:00 a.m. -

Ladies' Hospitality Hour - Terrace Lounge  
(Breakfast will be served)

10:00 a.m. - 12:30 p.m. -

Ladies' Tour of the City -

The University of Saskatchewan - Forestry Farm -  
Ukranian Art and Crafts Museum - Western Development  
Museum

12:30 p.m. - 3:30 p.m. -

Ladies' Luncheon at the Western Development Museum and  
slide presentation of Pion-Era Days

6:00 p.m. - 7:00 p.m. -

Reception - Convention Floor Foyer  
(Ladies and Gentlemen)

7:00 p.m. -

Conference Dinner - Adam Ballroom  
(Ladies and Gentlemen)

Entertainment and Dance  
(Dress informal)

TUESDAY, SEPTEMBER 16

10:00 a.m. - 12:00 noon -

Ladies' tour of Mendel Art Gallery and ladies' visit to the City Library Main Auditorium for a native art show presentation conducted by Professor John A. Warner (4th Ave. and 23rd St.), Ukrainian Art and Crafts Museum.

12:30 p.m. - 1:30 p.m. -

Ladies' Luncheon at the Holiday Inn (1st Ave. and 22nd St.)

12:30 p.m. - 1:30 p.m. -

Gentlemen's Luncheon - Adam Ballroom

WEDNESDAY, SEPTEMBER 17

7:45 a.m. - 12:00 noon -

Tours to the potash mines  
(Ladies and Gentlemen)

Bus transportation will be available at The Bessborough Hotel entrance for the tours to the potash mines. The tour consists of the surface and underground facilities. Ladies should wear low-heeled shoes and slacks for safety and convenience.



## AGENDA FOR COMMITTEES

### COMMITTEE No. 1 - TECHNICAL

Technical aspects of the Mineral Industry in the fields of Exploration and Mining Operations.

Chairman - Dr. J.-E. Gilbert

1. Role of Committee No. 1.
  - (1) Opening remarks by the Chairman
  - (2) Discussion of the role of the Committee
  - (3) Proposed agenda for the Committee
  - (4) Additional items for agenda
2. Role of Government in mineral exploration and development.
  - (1) Is governmental participation detrimental to:
    - (a) the use of public funds?
    - (b) the production, collection and compilation of data that can form a basis for successful development of, and exploitation of, mineral resources? (Dr. R. Miller - Vice-President of Noranda Exploration Company Ltd. and H. Horn - Associate Deputy Minister, British Columbia Department of Mines and Petroleum Resources, to lead the discussion.)
  - (2) Is the Provincial Mines Ministers' Conference a good place to obtain the Industry's views on the management of the provinces' mineral resources as a provincial responsibility? (M. Day - Assistant Deputy Minister, Alberta Department of Energy & Natural Resources, and Dr. L. Kilburn - Assistant Vice-President, Exploration and Development, Falconbridge Nickel Mines Limited, to lead the discussion.)
  - (3) The role of Government in planning the development of provincial resources. (Dr. G. B. Mellon - Deputy Minister of Alberta Energy Resources, to lead the discussion.)
3. Role and status of Standing Committees, Ad Hoc Subcommittees.
  - (1) Status of, need for and establishment of committees and subcommittees. Usefulness of ones such as: former standing committee on petroleum and natural gas, former standing committee on coal, former ad hoc committee on mining legislation, former ad hoc subcommittee on submission of exploration work data, standing subcommittee on chief mining inspectors.
  - (2) Agreement that whether or not within the framework of the Provincial Mines Ministers' Conference, the chairman of such body should be a provincial government officer.



### COMMITTEE No. 3 - SOCIAL

Problems pertaining to the environment, manpower, education and other social matters.

Chairman - Mr. J. H. McKillop

1. Need for retention of existing subcommittees, and their relationship to the conference.
2. Need for equal representation by Mining and Petroleum Industries to that of Government representation on task forces and subcommittees.
3. Apparent lack of relevance in reviewing new legislation and regulations.
4. Environmental management concerns of mineral development.
  - (1) Alberta Mines and Minerals comments on concerns about the eastern slope of the Rocky Mountains.
  - (2) The advisability of having a uniform environmental code for all Provinces and the Territories (possible creation of an ad hoc subcommittee.)
5. Labour-management relations and the employment problems.
6. Status and plans for manpower surveys relating to mineral resources.
7. Role of Government in assisting the training and encouragement of skilled field personnel (prospectors, line cutters, etc.)
8. Discussion of document "Towards a Mineral Policy for Canada - Opportunities for Choice".
9. Other business.





ALPHABETIC LIST OF REGISTRANTS  
AT THE  
THIRTY-SECOND CONFERENCE  
OF  
PROVINCIAL MINES MINISTERS

<u>NAME</u>	<u>REPRESENTING</u>
ALDERMAN, John	Saskatchewan
ALLEN, Gordon & Kay	Ontario
ANDERSON, Mr. & Mrs. Norman	British Columbia
ASCHACKER, M.	Alberta
AXFORD, Don & Ruth	British Columbia
BAKER, Percy A.	Association
BEAVAN, A. P.	Newfoundland
BEARD, Bill	Canada
BECK, Mr. & Mrs. Les	Saskatchewan
BELIVEAU, Lucien C.	New Brunswick
BELL, Alan & Kathleen	New Brunswick
BERG, Clif & Velma	Saskatchewan
BERRY, Cameron	Nova Scotia
BISHOP, Bob	New Brunswick
BLACK, Peter	Saskatchewan
BLOY, Mr. & Mrs. H.	Association
BONUS, John L.	Association
BOUCHER, G. R.	Quebec
BOUDREAU, Hon. & Mrs. Roland	New Brunswick
BOURGOIN, Bert	New Brunswick
BRAGG, Gordon & Marion	Saskatchewan
BRISSENDEN, Jean & Bill	Ontario
BRISTOW, Bill & Jan.	Alberta
BRUMMER, J. J.	New Brunswick
BURKE, B.	Canada
BURKE-GAFFNEY, Helen & Ted	Association
BURTON, John S.	Saskatchewan
BUZAS, Mr. & Mrs. A.	New Brunswick
CALLANDER, Keith	Association
CAMERON, Bob & Maria	Nova Scotia
CAMERON, Scotty	Alberta
CAMPBELL, Ken J.	Prince Edward Island
CARBONNEAU, Come	Quebec
CARR, Mike	Newfoundland
CAWLEY, Jim & Olive	Manitoba



<u>NAME</u>	<u>REPRESENTING</u>
GOODMAN, Jim & Shirley	Manitoba
GORDON, John	Association
GOVIER, George & Doris	Alberta
GRAY, Walter	Ontario
GREEN, Hon. Sidney	Manitoba
GREENWOOD, Paul & Betty	Saskatchewan
GRENIER, Paul -E.	Quebec
GROLL, Art & Gwen	Association
GROVE, Mrs. P.	British Columbia
HAMILTON, John	New Brunswick
HANSULD, Dr. John & Jan	Nova Scotia
HARDING, Ross	Ontario
HARYETT, Cliff & Audrey	Saskatchewan
HAUGH, Dr. Ian	Manitoba
HIGGS, Rick	Association
HILLIER, M. J.	Newfoundland
HODGSON, Ted	Canada
HOLUBOWICH, Frank	Alberta
HOPKINS, Dennis	Association
HORN, Hart	British Columbia
HUMPHREYS, Reg	Alberta
HURDLE, Bruce	Saskatchewan
HUTCHINSON, R. D.	Canada
HUTCHESON, J. R. M.	Quebec
HYMAS, Ken	Association
IRWIN, Art	Canada
JACK, Peter	Saskatchewan
JAMES, Carroll	Nova Scotia
JEWETT, Mr. & Mrs. George	Ontario
JONES, Carl & Marion	Association
JONES, Stan & Janet	Association
JONES, Ray & Yvonne	Ontario
JORDAN, A. T.	Canada
JOYCE, Frederick	Canada
KAISER, Edgar & Lilja	Association
KARVONEN, Doug & Brenda	Saskatchewan
KILBURN, Lionel	Quebec
KIPNIS, Norm	Newfoundland
KOFFMAN, Mr. & Mrs. Albert	Manitoba

<u>NAME</u>	<u>REPRESENTING</u>
LANGLOIS, Gonzague & Therese	Association
LAURIN, Andre	Manitoba
LEBEL, Louis	Saskatchewan
LITTLE, Doug & Jean	British Columbia
LLOYD, Roy & Rose	Saskatchewan
LOCHRIE, Ed	Association
LUSICK, Duncan	Canada
McCAMMON, George & Joan	Association
McCRODAN, Peter	Ontario
McCULLOUGH, Mr. & Mrs. Gordon	New Brunswick
McKAY, Ted & Mildred	Saskatchewan
McKEE, Maurice & Clare	New Brunswick
McKEE, Walter & Bernice	Newfoundland
McKILLOP, John	Newfoundland
McNABB, Gordon	Canada
MACEIJ, Hans	Association
MackAY, Murray & Mary	Saskatchewan
MackENZIE, W.	Nova Scotia
MANNARD, Dr. George & Florence	New Brunswick
MANNIX, Ron & Carol	Alberta
MARCH, R. R.	Newfoundland
MARIER, Andre	Quebec
MARSHALL, Bill & Marj.	Association
MASON, Miller	Association
MATTHEW, Bob & Lois	Association
MELLON, Dr. G. Barry	Alberta
MIKKELBORG, Chuck	New Brunswick
MILLARD, Vern	Alberta
MILLER, George	Ontario
MILLER, Robert	Quebec
MILLS, John	Saskatchewan
MILNE, Lindsay	Association
MODE, Don	Saskatchewan
MOERMAN, John & Nel	New Brunswick
MOHIDE, Dr. Tom	Ontario
MONTGOMERY, Larry	Alberta
MOORE, Bill	Association
MORRITT, Harry H.	Canada
MUNN, Don & Greta	Manitoba
MUZYLOWSKI, Mike & Lesia	Manitoba
NEIDERMAYER, A.	Newfoundland
NEWSON, Ralph	Newfoundland
NIMSICK, Hon. & Mrs. Leo	British Columbia







# DELEGATES AND OBSERVERS

## BRITISH COLUMBIA

### Department of Mines and Petroleum Resources

Nimsick, Hon. Leo T.  
Fyles, Dr. Jim T.  
Horn, Hart

Grove, Mrs. P.  
Peck, J. W.  
Poyen, J. S.  
Ross, W. W.  
Wilson, Walter

Anderson, Norman  
Axford, Don  
DeAnna, Ezner  
Little, Doug  
Pratt, M. E.  
Steeves, Keith E.  
Stevens, Walt  
White, Len

Fording/CanPac  
Mobil Oil Canada, Ltd.

Placer Development Limited  
Utah Mines Ltd.  
Bethlehem Copper Corporation  
Gulf Oil Canada  
Royal Bank of Canada, Mining  
Services











## NEW BRUNSWICK

### Department of Natural Resources

Boudreau, Hon. Roland  
Bishop, R. L. (Bob)

Corman, Dale  
Coughlin, E. K.  
Davis, Dallas  
Gemell, Don  
Hamilton, John  
Potter, Dr. R. R.  
Warren, R. W.

### Industry

Beliveau, Lucien C.  
Bell, Alan V.  
Bourgoin, Bert

Brunner, J. J.  
Buzas, A.  
Ford, D. H.  
McCullough, Gordon  
McKee, Maurice  
Mannard, Dr. George W.  
Mikkelsen, Chuck  
Moerman, John  
Shklanka, Roman  
Young, Alan

Sullivan Mining Group Ltd.  
Montreal Engineering Co. Ltd.  
Consolidated Durham Mines and  
Resources Ltd.  
Canadian Occidental Pet. Ltd.  
Anaconda Canada Ltd.  
Brunswick Mining & Smelting Corp. Ltd.  
Heath Steele Mines Ltd.  
Heath Steele Mines Ltd.  
Texasgulf Canada Ltd.  
Canadian Occidental Pet. Ltd.  
Brunswick Mining & Smelting Corp. Ltd.  
Canex Placer Ltd.  
Brunswick Mining & Smelting Corp. Ltd.

## NOVA SCOTIA

### Department of Mines

Pace, Hon. Leonard A.  
Smith, Dr. John C.

James, Carroll  
MacKenzie, W.  
Shea, Frank S.  
Zorychta, Herb













# Opening Plenary Session





OPENING ADDRESS BY  
HONOURABLE ED. WHELAN  
MINISTER - DEPARTMENT OF MINERAL RESOURCES  
PROVINCE OF SASKATCHEWAN

Good Morning Delegates.

I'm sure that you're all in an exhuberant mood and that you had a good nights sleep and that you're ready to go.

On behalf of the government, I want to welcome you here. Our government of Saskatchewan is pleased to host the thirty-second Mines Ministers' Conference. As the Minister responsible for that jurisdiction in our province, it is an honor and distinct pleasure to say "Welcome to Saskatchewan." This is the second meeting of the Mines Ministers to be held in the "Hub City" of Saskatoon.

The city's name is derived from the Cree Indian word "mis-sask-quah-too-min"\* the name of the beautiful blossoming shrub which groweth profusely along the South Saskatchewan River and whose luscious fruits are known as Saskatoons. Elsewhere the shrub is known by less romantic names, the Shad Bush, June Berry or Service Berry.

Our staff has worked around the clock to organize a program that will keep you busy considering policies and problems of the industries that are associated with mining. In addition there are receptions and tours that will make you feel welcome in Saskatchewan and in the City of Saskatoon. The staff of our department is ready and anxious to be of assistance to you at anytime. I was telling a lot of the delegates this morning, that if anyone needs their socks wrung out or their shirts rinsed and ironed, just look for the fellow with the green and white badge and I'm sure they'll

\* (Carpet of flowers)





is second only to oil in value.

In 1974 out of a total value of mineral sales of \$782 million, crude oil contributed \$397 million or approximately 50%, whereas potash sales were worth \$312 million or 40% of the total. In 1951 the value of Saskatchewan's mineral production was \$51 million. In 1974 the value has increased by more than fifteen times to \$782 million. These figures are perhaps unimpressive when set along side those of the four mining giants among the provinces; Alberta, British Columbia, Ontario and Quebec. But we rank fifth in 1974 and we feel that this is a good showing for a province still thought of by most Canadians as flat prairies, producing mainly wheat and agricultural products. Compared with other provinces, mining is not an old industry here. Mining of lignite coal goes back to 1880 and it has been mined continuously since 1892. Clay for making bricks commercially is recorded in 1905 but probably goes back to 1886, at least. Sodium sulphate was first produced in 1918, salt in 1920, gold and silver in 1932, copper and zinc in 1933, natural gas in 1934, crude oil in 1940 and potash in 1959.

From a Canadian standpoint Saskatchewan is an important supplier of sodium sulphate, helium, crude oil, uranium and potash; five of the twenty odd mineral items produced in this province. Until 1969, Saskatchewan was the only Canadian source of natural sodium sulphate; Alberta now has a plant. Canadian Helium Limited has wells at Swift Current producing Canada's only helium along with nitrogen. In 1974 the province's crude oil wells yielded 74 million barrels, 12% of Canada's total of 616,000,000 barrels. We share with Ontario, Canada's uranium production.



excellent road system leading to the city of Saskatoon.

To recap briefly regarding the future of mining in this province, exploration for new mineral reserves is going on over most of the 250,000 square miles of Saskatchewan. The 92,000 square miles of our Precambrian shield is being examined for metal, notably uranium by a significant force of exploration specialists. There is a vast region of 40,000 square miles between the Precambrian and the northern limits of the southern part of Saskatchewan which is being surveyed, that is also being searched under a planned program for non-metallic minerals. A considerable part of the remainder, mainly in the southern half of the province, continues to be the scene of a hunt for oil and gas.

We meet in Saskatoon, a centre that provides an excellent background for the Conference of Ministers who administer the laws and regulations of an industry that has become even more crucial perhaps to our existence since a year ago.

The agenda and topics for discussion offer an opportunity for ideas and opinions. Opinions that will be quoted and considered by the leaders of industry, law and government. We are delighted that the group is so widely representative and that the attendance here today is so high.

On behalf of the government of Saskatchewan, may I say to you again, a warm, warm welcome. We hope that you will enjoy your stay and best wishes for a successful, valuable and pertinent discussion.

Ladies and gentlemen we have been talking about Saskatoon. We have with us this morning, the first citizen of this community, he's a man who has been an alderman for





so forth. Quite true they're names that were handed on to us by various people and the very many hundreds of people that attended this city, either as tourists or delegates at these conventions. Last year we had 35 major conventions here with 105,000 delegates.

We have a reputation for hospitality which that I hope, you'll enjoy while you are here in our City. It is a nice City. It is a well planned City and as I say I've lived here for 58 years and I've seen it grow from a cinderella city through the depression years when for two years you looked out in the summertime and you could hardly see the sun. Its just like an orange ball in the sky, with the dust blowing and nothing but Russian Thistles growing. We, like the Maritimes, had serious poverty here and I might say to our Ministers from the Maritimes, they gave us a great deal of help during those days, sending us up potatoes and cod fish, and this helped to keep a lot of our people alive.

We've come a long way. We didn't know what wonderful opportunities we had in this province and the wonderful opportunities that lie ahead for us not only to help us but to help the rest of Canada. There is a great deal of resources here in this province and we are very fortunate here in the hub city to be located in the centre of them.

Saskatoon is booming and I think this year we will end up as the fastest growing city in Canada. Our highest year of building permits was 1967 when we had 57 million dollars worth of permits and from that time we went downhill until it started to come up 2 years ago; last year \$51 million. To date, this year, we're over \$90 million and we should reach about \$120 million in building permits. Of that number about 25 will be for new homes or housing



really in a bind and there is so much that we can do for Canadian people. I think we have an opportunity right now to know that we are representing the people of Canada, regardless of our position. Because what affects one community also affects another one and we have had the problem you know, that we have been referred upon as the blue-eyed Arabs here. But let me tell you with my association across Canada and the people that come here, we are all Canadians and we are here at this time now, to do something for Canada.

May I wish you every success in this Conference. I trust your stay here will be most rewarding and most enjoyable, and if there is anything in the city that we can do, please call upon us. Thank you very much.

CHAIRMAN - ED WHELAN

Thanks very much Your Worship Bert Sears.

I'm sure that everyone of you would like to meet the Ministers that are on hand this morning, and I'm going to give you a run down starting as they appear in your little handbook. I'll ask the Minister to identify himself. First I'm going to ask each Minister to put his hand up and wave. I don't think it is necessary to stand up.

First, the Hon. Leo Nimsick from the province of British Columbia. Leo. And then we'll jump a couple of them to this guy Whelan who is supposed to be chairing this meeting. Hon. Sidney Green, Minister of Mines Resources and Environmental Management from the province of Manitoba. Hon. Jean Cournoyer, Minister of Natural Resources from the province of Quebec. Hon. Roland Boudreau, Minister of Natural Resources from the province of New Brunswick.

Hon. Leonard A. Pace, Minister of Mines from the province of Nova Scotia.

I should give you the background of the next few people.

The Hon. Don Getty, I understand will be here later today. The Alberta delegation tell me they expect him later in the afternoon. He's the Minister from the province of Alberta. The two that are unavoidably detained, I think, have a good excuse.

The Hon. Leo Bernier, from the province of Ontario, is busily engaged, I believe, in an election campaign. The Hon. Leo Berry from the province of Newfoundland is also unavoidably detained for the same reason.

Hon. John H. Malone from the province of Prince Edward Island is representing Canada at the Commonwealth Parliamentary Association in Australia and will not be in attendance.

I have the distinct pleasure of introducing to you a person that we were fortunate enough to obtain as the guest speaker at this meeting of the Mines Ministers. He was born in the province of Quebec. He has 2 sons. Is very active in church work. I understand that his hobby is sailing. He has a Bachelor of Commerce which he obtained at McGill University. He began his business career with Sun Life. He went over to Noranda Mines in 1956 and rapidly he rose to Auditor, Ass't. Treasurer, Assistant to the President, Executive Assistant Director, Assistant to Vice-President, Executive Vice-President and then the President in 1968. That position he still holds. He's chairman of the Board of Directors of British Columbia Forest Products and Director of many other organizations associated with mining including Central Canada Potash and Gulf Oil Canada Limited who have operations in the



province of Saskatchewan.

He's a member of the board of Governors of York University of Upper Canada College. He's a trustee of the Toronto General Hospital. I think he's eminently qualified to address this meeting.

His subject is the management of our mineral resources. He's the President of The Mining Association of Canada. I'm proud to introduce to you, Alfred Powis.



KEYNOTE ADDRESS

OPENING PLENARY SESSION

THIRTY - SECOND CONFERENCE .

OF

PROVINCIAL MINES MINISTERS

ALFRED POWIS

President

THE MINING ASSOCIATION OF CANADA





MR. ALFRED POWIS -

Mr. Chairman, Your Worship, Honourable Ministers, Ladies and Gentlemen:

At the outset Mr. Whelan and I should Thank You for what must be one of the kinder introductions given to a delinquent taxpayer. I regret that of course I forgot to bring the cheques.

The theme of your conference this year is the management of our mineral resources, and I am indeed honoured to have been invited here to discuss the far-reaching and complex subject. Few challenges facing Canada in the future will bear more importantly on all of us than the proper resolution of this issue. It is highly sensitive, involving many of our social, political and economic perceptions and goals. It also involves much of our approach to international relations, particularly with our principal trading partners.

At the outset, I must express the hope that your invitation to a representative of the private sector to discuss management of our mineral resources implies that you still view us as a continuing element in this field. Lately, we've begun to wonder.

In resources, we have in Canada an exceptionally strong base. This base was developed essentially by the private sector, aided by favourable government policies and supporting services. Minerals are not assets until they're found and developed, a process which requires a great deal of skill and high-risk capital. Historically, this has been provided by the private sector, and no more effective mechanism for mobilizing the required management,



Such a statement would help to mitigate the adversary attitudes between government and industry which unfortunately have hardened recently. It would also provide a firm base upon which to develop some really meaningful discussions between governments and the industry.

The mining industry has publicly endorsed the mineral policy objective referred to earlier and, shortly after their publication, the Mining Association put forward some suggestions for mechanisms of consultation to translate these objectives into appropriate strategies. We remain ready to co-operate fully in determining the most effective methods to reach the main national goal - which is - to obtain optimum benefit to Canada from present and future use of minerals.

But if we are to achieve this goal, then government and industry must find better ways to play the "distinctive but interdependent roles" referred to in the minerals policy objectives document.

The private sector would prefer that governments simply establish a legislative framework providing reasonable encouragement to exploration and development, leaving industry to do its own thing with a minimum of interference. And my own prejudices lead me to believe that this would provide, in the long run, the best result for Canada.

However, this simply isn't going to happen. We are living through a trend of growing government involvement in all sectors of the economy - a trend which is probably one of the inevitable by-products of the growing complexity of our society.

Of course, there are dangers inherent in any trend, and we should guard against expediency and excess. We should remember that government involvement should not be a goal in itself, but only a means to achieve desired public objectives.





When confidence in any government weakens, men think in terms of a week, a month, a year - not the long-range future.. Planning in a period of uncertainty, whether individual or corporate, must focus on the now."

More than most endeavours, discovery and development of resources involve extended lead times and very long range planning. Confidence is an absolutely essential ingredient in this process.

It is my conviction that obtaining the "optimum benefit to Canada from the present and future use of minerals" will require a continuation of the traditional role of the private sector. At the same time, it will also require in today's world an unprecedented level of co-operation and co-ordination between governments and industry in the formulation of management strategies. Moreover, it is my conviction that a solution to our obvious present problems in this area will be of critical importance to the people of Canada.

This conviction was reinforced by the recent report of the Economic Council of Canada on trade strategy\*. This is a sobering document which identifies major trends of historic importance in today's changing world economy. These include the shift of the economic superpowers of the U.S., Europe and Japan towards a post-industrial economy based on intellectual capital, high technology and major international service facilities. At the same time, manufacturing of standard-technology goods is shifting increasingly to low-wage areas of the world.

What is taking shape is an integrated international economic system in which Canada's place is difficult to identify.

\*"Looking Outward - A New Trade Strategy for Canada"  
The Economic Council of Canada, 1975



industry accompanied by accelerated development of those regions outside our existing urban agglomerations. If we are to maintain, let alone improve, the living standards of Canadians in the context of world economic trends, this prescription is clearly correct.

But what about our ability to expand mine output? In this connection, a recent study\* prepared by the federal Department of Energy, Mines and Resources, forecasts Canada's future markets - domestic and export - for the seven commodities which account for over 90% of the value of our mine production. While there is considerable variation from commodity to commodity, it concluded that available markets will support at least a tripling of Canadian mine production over the next 25 years.

If this increased production is to occur, it is apparent from the study that it must all come from new mines, and that other new mines must be developed to replace those which will cease production during this period. In effect, we will need as many new discoveries as were made during the 1946-70 period, some 228 of them. If we fail to achieve this, it won't be because we have run out of resources of major metals in the ground. The report itself is quite clear on this, and states that Canada's physical resource base is more than adequate to support the projected rate of growth to the year 2000 and beyond.

Aside from maintenance of a favourable cost structure, successful exploration is clearly essential to the realization of our opportunities. The report suggests that this will require average annual exploration expenditures of \$200 million in constant dollars. This is about triple the average in the 1951-70 period, reflecting the declining yield of discoveries per exploration dollar. In addition, to develop

\*"Mineral Area Planning Study"

Department of Energy, Mines and Resources - 1975





vice between conflicting taxing powers of the federal and provincial governments, and they are now the most heavily taxed sector of the economy. In much of Canada, the bewildering and unco-ordinated array of new tax structures makes it impossible for the private sector to earn a reasonable return on most new mine development.

If new mines cannot be developed, there is no point in looking for them and the declining trend in exploration of the past few years will accelerate. Lead times in the industry are long, and today's problems will not have an obvious impact for several years. But inevitably, reduced exploration activity will result in a reduced discovery rate and reduced investment. Moreover, even if we were to revert tomorrow to the climate of the 1960's, confidence in the stability of the system has been shattered and can't be quickly rebuilt.

The erratic distribution of mineral wealth alone does not explain the fact that two-thirds of the Western World's mines are in just four countries - Australia, Canada, South Africa and the United States. This is completely out of proportion to the world's geological potential, and illustrates the fact that political and economic stability attracts mineral exploration and development.

One of the world's foremost authorities on mining recently commented that Australia and Canada seem bent on legislating away their comparative advantages. He did go on to say that the Third World would be the likely beneficiary of this, so that the result will not be altogether bad. However, while it is Canadian policy to help the poorer countries of the world, surely this is the wrong way to go about it.

Well why are we in this mess?



by emphasizing our areas of comparative advantage and, based on results, these policies were highly successful.

Of course, circumstances do change, and policies which were appropriate a quarter of a century ago may have been overtaken by changing national aspirations or international circumstances. We recognize that economic growth per se is no longer the only objective, that conservation of resources is a matter of real concern, and that protection of the environment and upgrading of working conditions must be an urgent and continuing priority.

Nevertheless, we submit that, in terms of the apparent future direction of the world economy, recent policies towards the resource industries have clearly been perverse.

I was asked to give equal time in these remarks to oil and gas. I don't plan to do so, mainly due to my vast fund of ignorance on the subject.

About all I really know about the petroleum industry is that it is completely different from mining. Each industry involves the extraction of so-called non-renewable resources which are discovered as the result of high-risk exploration, but the resemblance ends there.

The two industries are completely different in terms of market characteristics, relative international positions, technology, price patterns, exploration characteristics, cost structure and ownership patterns. Public policies appropriate for petroleum are likely to be an unqualified disaster if they are also applied to mining.

Public policy toward the petroleum industry is presumably based on the size of our reserves relative that to domestic requirements, the pervasive importance of energy to our economy, concern over ownership and control, the manipulation of the supply and price of crude oil by the OPEC





maintained. We have the resources and the technology we need, and we can find the necessary capital if there is the prospect of a reasonable rate of return. But, in addition to the political environment, there are some fundamental problems.

Increasingly, our new deposits will be found in remote and inhospitable areas. We will have continuing difficulty attracting and retaining the skilled labour force we need in those locations. The costs of exploring for and developing our minerals and of getting them to market will be very much higher in future. We will have to compete with new deposits elsewhere in the world which are large, rich, more accessible and easier to find. And the impact of recent inflation rates on the ability of industry to justify new capital-intensive projects is very serious.

It is clear that Canada's mineral policy should take these circumstances fully into account.

The most recent federal-provincial policy statement - identifies four major options for Canadian mineral policy:

- (1) Continue, as in past decades, to encourage maximum mineral production.
- (2) Encourage economic diversification and growth through increased mineral processing and mineral based manufacturing in Canada.
- (3) Obtain the highest possible net financial returns to Canadians from minerals, particularly from exportable mineral surpluses.
- (4) Conserve mineral resources for long-term domestic requirements.

As you might expect, the industry would support a policy blending the first three options, with the fourth being applied in certain limited circumstances. In other



certainly be pursued. But we should not exaggerate the potential benefits if the other barriers remain - as they likely will.

As for the third option - increased financial returns to Canadians - this is perfectly reasonable provided it is interpreted fairly. That is, we should not try to achieve this result by joining OPEC-like cartels. Also, the Canadians for whom financial rewards are to be increased should include the 9% of our labour force which depends, directly or indirectly, on mining. They should also include the millions of Canadians who have invested their money directly or indirectly in the resource industries.

It is difficult to avoid the suspicion that governments throughout much of Canada have, in effect, embraced this third option exclusively, and have interpreted increased financial returns as meaning solely increased tax revenues. Seen in this way, adoption of the increased returns option virtually excludes the possibility of maximum production or economic diversification.

Some will argue that encouragement of maximum production is not a realistic option in view of current social and political trends, but it would be a mistake to reject it out of hand. In fact, if the picture of the emerging world economy painted by the Economic Council proves correct, we will inevitably be forced back to it. And, if this happens under the right blend of policies, both economic diversification and increased financial returns for all will flow out of it.

Hopefully, we are only going through a temporary phase, and stability and clarity will eventually emerge out of what, from the industry's standpoint, at present, is a state of deplorable confusion.

Well, how can we improve matters?

One thing that has become strikingly obvious is that, when dealing with mining, the industry and governments generally start from such different perspectives that we find it almost impossible to communicate. Fundamentally, we simply don't understand each other.

To the extent that it results from different ideologies, this is perhaps inevitable. But this doesn't really begin to explain the problem. What we really lack is a common understanding of nearly all aspects of the industry - risks, profitability, marketing, technology, financing, ownership, and so forth. Worse yet, it is incredible that none of us really knows what the full impact of mining is on the Canadian economy. Despite the importance of this industry to Canada, we lack a reliable data base.

It was for this reason that the Mining Association of Canada and the federal Department of Energy, Mines and Resources have jointly established and funded a Centre for Resource Studies at Queen's University. This is a co-operative research organization which will bring together the best available knowledge and experience across Canada. The goal is to develop objective and credible research bearing on the complex problems of mineral resource policy.

The Centre now has underway a major study which should encompass most of the important aspects of management of the mining sector of our mineral resources. We hope that this exhaustive research will lead to objective conclusions upon which effective and realistic policy recommendations can be based. However, this is going to take some time to complete.

We badly need a common base, and we need it quickly. It is absolutely essential that, when we discuss the various



aspects of the industry, we talk about the same things based on commonly understood and agreed principles and numbers. Only then can we have a really meaningful debate on the mechanics and impacts of proposed policies.

The submission of the Mining Association of Canada to this Conference suggests formation of a tripartite council comprised of experts drawn from the two senior levels of government and from industry. The objective would be to try to establish the common base needed and to reduce the areas of polarization and disagreement between the governments and the industry. I commend this suggestion for your serious consideration.

The concerns I have outlined will be dismissed by many simply because they are expressed by an industry spokesman. Because of the source, they will be deemed self-serving. In any case, there will be a tendency to ignore them on the assumption that there is a basic conflict between the objectives of governments and industry.

Conversely, I must acknowledge that many government proposals and concerns are likely to be dismissed by industry on similarly flimsy grounds. Perhaps the first prerequisite to a sound mineral policy is a rearrangement of prejudices on both sides.

The atmosphere of confrontation in which our mineral policy is being produced is resulting in an irrational management of our resources. Within this environment, one of the key assets offered by industry - its experience and expertise - are effectively ignored in the formation of ongoing mineral management strategies.

The success of Canada's future mineral management surely requires that all available experience and expertise receives a rational, open and thorough public hearing. We must make certain that advisors in all sectors

do not dismiss conflicting viewpoints solely because of their source.

Recent experience with changes in the field of mining taxation demonstrates that the public interest would have benefited from more thorough and open examination of their implications and their impacts. The challenge today is to create the new mechanisms needed for the rational examination of mineral management matters, new forums where all informed viewpoints will receive careful public scrutiny.

We need a genuine will to co-operate, not in the narrow context of short term political or corporate goals but in pursuit of the long term national interest. If we can achieve this, it should not be beyond the limits of human ingenuity to establish a realistic and equitable system within which the legitimate aspirations of all sectors can be satisfied.

Recent developments have resulted in an environment in which we can't hope to achieve the national goal of obtaining optimum benefit from our mineral resources. This can hardly be considered good management.

And we owe it to Canada to do better in future.

Thank you very much.

CHAIRMAN HON. ED. WHELAN

Thanks very much Mr. Powis. I'm sure that the discussion that will follow will be very interesting and very worthwhile.

What we propose to do, is to ask three of the Ministers to comment and we're going to unilaterally allocate the time to a limit of 15 minuts each and I'm going to ask them to comment in this order:- Hon. Leonard Pace, Hon. Sidney Green and Hon. Jean Cournoyer. Beginning now with the Hon. Leonard A. Pace the Minister of Mines from the province of Nova Scotia.

HON. LEONARD PACE

Thank you Mr. Chairman.

His Worship has departed. I bring him greetings from the Maritime provinces.

Fellow Ministers, ladies and gentlemen:

Seems to me when his Worship was talking about sending up the cod fish and potatoes to the Western provinces for their survival in the 30's, struck me immediately that we could stand a great infusion of oil at this time in our province which is almost, in the state of the 30's. So therefore, if anyone has any ideas along that line we'll certainly be most happy and appreciative of receipt of those goodies.

Now, the topic this morning, the "Management of our Mineral Resources," of course I must congratulate Mr. Powis in doing an extremely good job in presenting the views of the industry. I must say, not particularly slanted, as much as I may have expected and he has treated the matter fairly. However, I must say the discussions over the past few years about the resource industries might indicate that

the title of this Plenary session should be the "Mismanagement of our Mineral Resources."

It would appear that issues of corporate philosophy, foreign control, social consciousness, is somewhat confusing resolutions of the relative jurisdictions between governments and the roll of government of the management of the resource may have been detrimental to the development of a strong and healthy mineral industry and hence as a direct negative impact on the economy of Canada. This confusion appears to have been caused to a large extent by the fact that many people, particularly in the government bureaucracies have little projection of the roll that the mineral industry has played in the development of this country and the great contribution still being made to our national economy. We appear to be going through a stage of opinion that the mining and petroleum companies have been participating in a great corporate rip-off. Although this opinion may be justified in some instances, and undoubtedly it is, let me remind you that if this is the case, and in general I doubt it, such a state of affairs happen with the full approval and consent of the various legislative bodies in Canada.

To be overly critical of an industry that has not rated fully within the laws appear to me to be slightly unfair. However, notwithstanding the past accomplishments of the industry, and fully recognizing their great contribution to our economy, the fact remains that in Canada, as in the rest of the world the perception that our non-renewable resources are diminishing, that these resources are not infinite and that the emerging nations are striving to improve their national economies, with ever increasing demands on our raw materials, leaves us to the conclusion that long-term



objectives and policies must be established if we are able to meet the needs of the future.

It has been said that we are only stewards of our resources. Therefore, we have an obligation, not only to ourselves but succeeding generations. Corporations appear to cope more easily with the concept of long-term planning than do governments. Notwithstanding our desire for long-term planning, I am sure that we would not wish to establish a system of government, whereby the right of the people to choose becomes subservient to a technocratical planning process. Although the ability of government to give long-term commitments is limited by the democratic process this should not and must not hinder the exercise of responsible and responsive, government action to establish policies in the best interest of our people. Because of our changing perception of the world scene the expectations of the people require that government become more involved in the management of our resources. The involvement of government in resource management should not mean that we are critical of the ability of the private sections to manage their own affairs but that we are only reflecting our concern and exercising the right that resources as in other sectors are used and produced to meet the objectives of government.

As an example, we attempt to develop industrial strategies whereby certain areas are designated as locations for heavy industry or for manufacturing or for service industries. These designations may be based on such factors as the availability of infra-structure, labor, electric power or general economic conditions. Thus we are, in fact, managing these sectors. Mineral resource development of course, is different in that ore deposits are where you find

them and government has no controls over the whims of Mother Nature. Therefore the management flexibility and options open to government are limited compared to other sections of the economy. Some of the options are, increased direct revenues, increased downstream or spin off benefits and increased employment. It is obvious that governments have a choice of what benefits they wish to obtain. I suggest that good resource management is based upon optimizing the total impact and not maximizing any single part of the whole. There does seem to be a preoccupation with obtaining maximum government revenues to the exclusion of all other important benefits. In fact if the total net benefit were set it might be found that in addition to increased development in economic activity there would be a greater direct revenue generated that tended to put full burden on primary mineral development stage.

The term management can mean many things to different people. As its demonstrated by our current state of confusion. I believe that the roll of government should be to establish, through legislation, clear and precise rules of the game and to that to annouciate the government philosophy and intent in interpreting these rules. In Nova Scotia we are committed to a strong private mineral industry. Quite frankly we have better use for our limited revenues in meeting the social and economic needs of our people than indulging in high risk speculative ventures. We have recently inacted a new mineral resources act, which I believe creates a climate for investment in mineral exploration and development, that ensures a fair and reasonable return to the private sector, as well as meeting the legitimate concerns and aspirations of the province. I am sure that the industry will find that all of the sections of the act are not completely to their satisfaction, however are intended to develop a strong

mineral industry in co-operation with the private sector. We assume that the mining companies are prepared to be good corporate citizens of the province and in return we will give our full assistance and co-operation for our mutual benefits. Because of the current situation in Canada, I want to raise three specific points to clarify our thinking.

We have established a royalty rate based on the concept of a percentage of net profits. The royalty rate is a flat maximum of 15%. This rate has been determined to be an adequate and satisfactory payment for the extraction of a provincial mineral resources. We do not believe that the concept of a super-royalty or so called excess profit is in the best interest of our development policies. However, we also recognize that some payment should be made for the extraction and use of an asset and resources. Therefore, we have introduced the concept of a minimum royalty rate of 2% of net of the returns. Our rationale is that if the profitability of a mining operation falls below the ability of a company to pay such a minimum, then it is time for the company and government to sit and discuss the situation. If it is determined that the net benefits of the provincial economy from the operation is greater than the collection of minimum royalty, the Governor in Council has flexibility in adjusting the rate.

The second point is that we support the concept of further processing of resources within our national boundaries. With this in mind we must encourage the mineral industry to examine the feasibility of establishing facilities for processing ore beyond the concentrated state. We recognize that such facilities can only be located on sound business principles and within the framework of the international trade patterns.

The third point involved the question of jurisdiction.





The next Minister to take part in this discussion is the Hon. Sidney Green, who is the Minister of Mines, Resources & Environmental Management from the province of Manitoba. Sidney Green.

HON. SIDNEY GREEN

Mr. Chairman, ladies and gentlemen:

First let me say that I have been attending Mines Ministers Conferences now for a period of six years and I find that the conferences have developed to the point where they are more and more coming to the more important issues that affect the mineral development in our society. I don't know whether other Ministers have had that perspective, I don't wish to appear, somehow making a distinction, but it is necessary to say that in a period of six years as a matter of fact in a period of four years, politics being what they are, one becomes the Senior Minister in terms of time in attending these conferences. I always tell my mining friends that when they suggest that mining is a risky business that it is much more risky to be in the business of politics because some of the mining people I see continue on and on, but the political faces have changed. I like to tell this story and I've told it before but I think it would be worth repeating that with regards to Manitoba they had about four or five Ministers in two years and in the last six years they have had one Minister and that, I suppose, has its advantages but it also has its disadvantages. Its rather like the story of the married couple, middle aged couple, where the wife notices that her husband's attention towards her have considerably cooled off. And she tries to do all the wifely things to restore some warmth. She pays more attention to her dress, more attention to her appearance, more attention to the meals, flatters him, builds up his ego, but nothing works. Finally in desperation she came



simple. It can best be compared to what the strategy of any private mining company would be, with regard to the minerals claims which it is now holding under lease. Many of the people here have land, they have rights, they have leases to mineral potential and I think that they understand how they feel about these claims or their holdings. I'm certain that a private mining company holding mineral leases would first of all want to retain its leased land on conditions most favorable to itself. Secondly, it would want to have the flexibility to develop those lands as and when it chose to do so, determined by its other holdings and the cost of proceeding at any particular time. Thirdly, it would like to like to proceed with mining development on the best terms possible with payment of as small amount of taxes as it could get away with. I am not making these observations with any criticism of the mining industry. I consider them to make very good business common sense. If it requires the confession of my part, I'd like to pay as little taxes as I possibly can and when I tell my accountant to submit my return I do not tell him to maximize my payment to the Federal Government. I tell him to use the laws available to minimize my payment to the government. So I think that we both understand that and I have absolutely no criticisms of the mining companies wanting to do the same thing.

For years governments managed their affairs so as to facilitate the interest of the private mining companies. They permitted the leasing and holding of mineral rights on relatively attractive terms to the mining company. They did little to place stringent requirements on the development of dormant mining leases and they bent over backwards to reduce taxation and to provide special concessions to the mining industry. It should be obvious that policies of this





funds on behalf of the people of the province on their own property - that is on provincial property, in the hope of realizing as much as possible of the potential returns rather than merely the tax collector's share. I have indicated on numerous occasions and I so repeat, that I do not think that the people of any province, that the people of the country can hope to maximize their return on the basis of increased taxes. It is an irresponsible policy to say that somebody else will make and you shall take. That policy is something that I could never subscribe to and therefore I say a tax policy which is designed to merely let somebody else do the work, while somebody else reaps the benefits is something I cannot subscribe to and have never advocated. Now we have done these three things and I'll depart for a moment from my text. Without any changes in contractual law and you know I really believe this to be, In Mr. Powis remarks, it is something he cannot pursue if he really pursued the idea of democracy. That in any democracy one must expect that the elected, the people of the country have a right to change the law and nobody regards the rate of taxation as a contract between the government and the mining companies. Nobody in Canada is guaranteed that they will be able to operate on a certain rate of taxation. Nobody in Canada is guaranteed that they will be able to operate on a certain basis of health regulations. The health regulations of the province of Ontario now requires that there be certain kitchen facilities in restaurants. When a person goes into a restaurant business on a basis of that facility and the health regulations change three years later which requires the entire renovation of the kitchen facilities one cannot say that this is a contractual change or a change in



exploration budget is being dedicated to exploration activity. To anyone who has my text I would hope that they would make a correction. I used two words small and substantial, it was small, it is now substantial.

Mr. Powis was good enough to give us advance copies of his text. I appreciate his position and have no argument with his point of view as a representative of his shareholders. Now I want him to understand my point of view as a representative of my shareholder. He says that the private sector is the only competent agency for the exploration and development of our mineral resources. He says that the public is dependant for this development on private industry and should do everything possible to create a climate conducive to its continued good health. He says that not only are we dependant on the industry, but that it is right that we are so dependant. He says that any steps which we would want to take to achieve relative independence are wrong. He says that not only are we dependent on the private industry but insists that we must admit to him a declaration of dependence in order to retain his goodwill. My response will not be delayed.

I believe that the public must have, must have, a participatory roll in the exploration and development of our mineral resources. This roll can be played in conjunction with the private sector at its option. Under no circumstances should the public be totally dependent under private sector for mineral resource development.

Mr. Powis has requested a clear restatement from me, this will not be a restatement because I have never made a statement that he says has to be restated. A clear restatement from me that the private sector is considered to be an essential and continuing element in the field of

mineral resources management and development.

I accordingly offer to Mr. Powis and the private sector the same invitation. I invite you, I say that it would be useful to have you make a clear statement, that you consider a public sector to be an essential and continuing element in the field of mineral resources management and development. I invite industry representative to include such a statement in any of your presentations to us. Thank you very much.

CHAIRMAN ED WHELAN

Thanks very much, Mr. Green

The next speaker is Jean Cournoyer the Minister of Natural Resources from the province of Quebec.

HON. JEAN COURNOYER

Mr. Chairman, Mr. Powis, fellow Ministers.

I would hope that had I been a Minister of Natural Resources for six years that I would equally understand everything that has been going on here. I know that you will understand that, since I have only been the minister for a month and a half that the remarks that I have to make will of course have been prepared with my approval by various people in the civil service of my new department based on the advance copy of your address. I have to speak in French because it was not translated and I thought there would be a simultaneous translation. I could speak in English but I could not translate the material without delay and some error. I then speak French, this is another language that is spoken in Canada also.



Le Président de l'Association des Mines du Canada exprime des inquiétudes quant à l'avenir à moyen et long terme de l'industrie minière canadienne. Voilà l'impression que je ressens lorsque après avoir lu et entendu M. Powis. Je comprends également que les inquiétudes du représentant de l'industrie minière sont une appréhension générale du secteur privé, face au comportement que les gouvernements vont adopter dans un avenir prochain vis-à-vis le management de nos ressources minérales, le thème de cette conférence.

En tant que nouveau venu à cette réunion plénière, en qualité de ministre des richesses naturelles du Québec, vous me permettrez, je pense, de m'étonner un peu à l'écoute de propos pessimistes de la part d'une industrie qui par définition représenté et doit représenter le management le plus optimiste, le plus confiant et même le plus agressif dans un pays aussi pourvu en ressources que le Canada. Ce type de management, que je pourrais appeler "High Risk Management", est sans doute un trait que vous avez en commun avec l'industrie du pétrole et du gaz. L'industrie minière canadienne aurait avantage à réaliser qu'elle s'attarde un peu trop longuement depuis les 5 ou 10 dernières années, sur les inquiétudes et les incertitudes dont elle fait état régulièrement dans ses rapports avec les divers gouvernements.

L'évolution rapide, parfois troublante, et souvent paradoxale d'une société moderne comme la nôtre, provoque inévitablement des perturbations et des craintes à tous les paliers d'une société organisée, pas seulement au palier de l'industrie. Réclamer d'un gouvernement des politiques claires, des règles du jeu bien définies et l'assurance d'une continuité politique non interventionniste pour sécuriser les investissements à long terme des compagnies minières, c'est oublier la réalité politique, économique et sociale actuelle et ça indique une absence de volonté de partager les responsabilités collectives que notre communauté doit affronter avec les mêmes incer-

titudes. Comme en fait état le président de l'Association, nous vivons dans une ère où les implications et interventions gouvernementales sont plus nombreuses. L'industrie minière se demande jusqu'où ira le gouvernement dans ses initiatives en milieu traditionnel du secteur privé. Je vous retourne la question, car elle constitue pour nous le problème fondamental: Jusqu'où la population canadienne désire-t-elle aller?

Il nous semble clair cependant que les interventions gouvernementales se situeront d'abord et avant tout au niveau des carences constatées dans un secteur privé, souvent débridé, parfois ignorant des aspects que la population considère de plus en plus comme nécessaires à son mieux-être collectif. Il est un point, je pense, sur lequel l'industrie minière et les délégués des gouvernements représentés à cette conférence doivent se mettre d'accord.

Nous aurons à faire face d'ici les prochaines années à des changements importants dans l'ensemble de nos structures socio-économiques. Si nos moyens s'avèrent limités pour identifier ces changements, et planifier nos actions politiques et économiques en conséquence, nous disposons par contre de nombreux moyens pour nous équiper en vue de faire face à ces changements.

La formation d'un comité tripartite formé d'experts des deux gouvernements et de l'industrie, suggéré par l'Association des Mines du Canada en vue d'accroître notre compréhension réciproque et de faire naître la confiance dont nous avons besoin de part et d'autre, est l'un de ces moyens, étant donné les champs d'action des gouvernements en place et les modes et autres procédures d'inter-relations entre ces deux gouvernements et l'industrie. Je ne vous cacherai pas ma préférence cependant pour la formation dans une première étape d'un groupe bipartite se penchant sur l'établissement de meilleures communications entre l'industrie et les provinces responsables de la

gestion des ressources. Vous reconnaîtrez avec moi que les réunions institutionnalisées entre l'industrie et le gouvernement, soit au moyen d'une convention ou d'une conférence comme celle-ci, ont un caractère limitatif, même si on y traite de questions d'envergure. Je favorise personnellement un système de relations informelles continues et à tous les paliers hiérarchiques entre l'industrie et le gouvernement pour élaborer des éléments de solution à nos problèmes communs, une fois que nous aurons réussi à les identifier.

Dans son exposé, M. Powis, mentionne que l'implication ou l'intervention gouvernementale n'est pas un but en soi, mais seulement un moyen pour réaliser les désirs de la population. Ne croyez-vous pas que ce raisonnement peut s'appliquer de la même manière au rôle traditionnel de l'entreprise privée.

Dans une société en évolution rapide, comme la nôtre, je trouve très téméraire, M. Powis, d'avancer que les bénéfices optimums que le Canada peut retirer de l'utilisation présente et future de ses ressources s'obtiendront grâce à la continuation du rôle traditionnel de l'industrie. Le gouvernement québécois considère l'industrie privée comme l'agent principal et le plus désirable présentement pour assurer le développement de ses ressources.









CHAIRMAN ED WHELAN.

Thank you very much, Mr. Cournoyer.

We will be responsible for preparing the transcript of this meeting and the presentation by the Minister will be in English and in French. We'll give you that undertaking now.

I want to say how much I appreciated the attention the audience has given this meeting up until this moment. Perhaps you would like to stand up and take a trip. How about that. Just stand up and turn around. We are going to have one more speaker; we are going to wind this up by asking Alfred Powis to make a short comment - 5 or 6 minutes and then we'll adjourn for lunch. Can we call the meeting back to order now. Mr. Powis would you like to make a comment or two. Its all yours.

ALFRED POWIS.

Mr. Chairman, Gentlemen.

I asked for five minutes of rebuttal primarily because the various Ministers here have an advanced copy of my remarks and I didn't have the faintest idea what they were going to say in reply.

Starting with Mr. Pace, all I can say is that I'd wish I had written those remarks but I didn't. I couldn't agree with him more. Turning to Mr. Cournoyer's remarks, my knowledge of French is a little rustier than it should be or used to be. I don't think I have very much that I want to take issue with then. He talked about preference for two party laws and tripartite talk. My only comment to that is there are times when although I'd like to ignore the existence of Federal government I





appropriate activity for governments to become involved in, in a significant way. Mr. Green obviously disagrees. In this I am not trying to denigrate politicians as civil servants. I just happen to think the functions are different and I don't think that Mr. Green is any better equipped to run a mining industry than I am to run the province of Manitoba. However, on that we will disagree, I agree to disagree. Who is right, in this case, only time will tell. Now Mr. Green has talked about the fact that he is only following private sector philosophies. He wants to get the maximum out of taxation from the mining industry and leave the minimum amount to the mining industry that he can get away with. (inaudible remark) Sorry, O.K. I misinterpreted him again. This is the way I interpreted his remark and all I can say that is that is fine, that effectively precludes the private sector from playing an important role. (inaudible remark) As I interpreted his remarks this precludes the significance participation by the private sector in exploration for and development of new mines in Manitoba. If this is the way the people of Manitoba want it, so be it. Time will tell whether this in fact is going to work to the benefit of the people of Manitoba. I very frankly doubt it. I've used up my time.

CHAIRMAN ED WHEELER

Do you want to hear Sidney Green? I promise you he will only be a minute because this wasn't on the agenda.

HON. SIDNEY GREEN

It will probably be two minutes. Now I don't mind defending my position, but I cannot defend the









## Committee Reports











## COMMITTEE NO. 1 - TECHNICAL

The chairman called the meeting to order at 2:05 P.M. and reviewed the minutes of the meeting held in Moncton in 1974, and also the resulting decisions made by the Ministers in 1974. No old business was carried forward from the minutes.

### ITEM NO. 1 - ROLE OF COMMITTEE NO. 1

#### (1) Opening remarks by the Chairman

The history of the committee was reviewed and the many accomplishments of the committee and its ad hoc subcommittees listed the Chairman noted that the agenda for 1975 indicated a complete change in direction for the committee from that of a technical role to one of examination of broad issues, some of which have a political aspect.

#### (2) Discussion of the role of the committee

It was agreed that this item should be postponed until the end of the deliberations of the committee.

#### (3) Proposed agenda for the committee

The agenda was accepted as presented.

#### (4) Additional items for the agenda

It was agreed to ask the Geological Survey of Canada to present its usual report on activities relevant to mineral exploration, particularly with respect to joint Federal-Provincial programs.

### ITEM NO. 2 - ROLE OF THE GOVERNMENT IN MINERAL EXPLORATION AND DEVELOPMENT

#### (1) Governmental Participation in Exploration and Mining



viewpoint on the management of Provincial mineral resources.

(3) Role of Government in planning the development of provincial resources

Dr. G. B. Mellon, Deputy Minister of Alberta Energy Resources, presented a background paper using the development of the Alberta tar sands as an example.

No specific resolution or recommendation to the Ministers was forthcoming.

ITEM NO. 3 - ROLE AND STATUS OF STANDING COMMITTEES

(1) Status and Need for Subcommittees

The report of the Chief Mining Inspectors was received and accepted with the following resolution being passed. Due to increasing use of hydraulic fluid in mining machines underground and the consequent increased fire hazard and attendant risk to life, this committee recommends that all provinces enact legislation for the prevention or control of the use of flammable hydraulic fluids underground and the use of non-flammable fluid at the earliest practical time.

Carried

It was agreed that the Chief Mining Inspectors subcommittee be retained, and that the ad hoc subcommittee or submission of exploration work data be retained subject to the proviso that there be equal representation by industry and government. Also an agenda subcommittee should be formed.

It was moved that a mining environment subcommittee of Committee No. 1 be formed with





























Having said this, I would say again that, intrinsically, there is nothing done by the private sector that could not be done equally as well by the public sector. This does not necessarily mean that the activities of the private sector should necessarily be paralleled or matched by the public sector. In fact, there could be a tremendous waste of financial resources as the result of such duplication, and that is a luxury no economy can afford for long. But, given the appropriate development of experience and expertise in the public sector, there are good reasons to support government involvement in mineral exploration and development.

I have a bit of a problem with the word "logic" in connection with the use of public funds. On the assumption that "benefit" equals "logic," and "beneficial" equals "logical," I would hold that the use of public funds for government involvement in mineral exploration and development is perfectly logical. There are many instances where the mineral industry is not able or willing to expend funds when, in the larger public interest, it may well be necessary or desirable to do so. This is particularly true in this modern day and age, when corporate decisions tend to be made in distant places, sometimes in foreign countries. In such instances, the public sector should take appropriate action, including the expenditure of public funds, as an incentive to stimulate action or activity.

I am not so certain that the past use of public funds for government participation in Canadian mineral exploration and development has always entailed the discharge of proper responsibility and accountability. By this I mean that the provision of straight subsidies without the attainment of equity may constitute sheer irresponsibility and non-accountability versus the public, unless

































































## ITEM 1 - Legislative Changes

### 1. Manitoba

The Metallic Minerals Royalty Act was enacted, which imposes a levy of 15 per cent where the profit does not exceed 18 per cent of the investment base, and a levy of 35 per cent of the investment base. With respect to metallic minerals, the new Act replaces the levy formerly imposed under the Mining Royalty and Tax Act.

Additional information may be found in Appendix A.

### 2. Ontario

The Mining Tax Act was amended to replace the 15 per cent flat rate with a graduated rate ranging from zero on the first \$100,000 of profits to 40 per cent on profits in excess of \$400,000.

Incentives were incorporated to encourage exploration and further production.

Additional information may be found in Appendix A.

### 3. New Brunswick

New Brunswick is continuing to review its resource legislation in an attempt to keep pace with changing needs of industry and government. The significantly altered Oil and Natural Gas Act and the Pipeline Act are expected to go before the legislature in the fall of 1975. Consideration of other objectives accepted by the province, such as the Quarriable Substances Act and the Shale Act are currently under review. Other changes are being contemplated by the government.



#### ITEM 4 - Economics and Financial Needs of the Oil and Gas Industry

Three representatives of the Economics Model Committee of the Canadian Petroleum Association presented a paper on the above topic which is attached as Appendix E.

Under the assumptions made, it is estimated that total cash requirements by the oil and gas industry in Canada over the next 15 years will amount to \$93 billion. Even with this investment, it is forecast that substantial imports of crude oil will be necessary.

#### ITEM 5 - Subcommittee on Mineral Statistics

Dr. J. Fyles presented a report on the proceeding of the subcommittee over the past year. A copy of the report is attached as Appendix F.

After a discussion of the report, the following motion by C. A. Perry seconded by V. St. Onge was approved by Committee No. 2 for consideration by the Ministers:

Moved, that the Subcommittee (of Committee No. 2) on Mineral Statistics be discontinued, and that Dr. J. Fyles be appointed as the representative of the Provincial Mines Ministers Conference to the Minerals Committee of the Federal-Provincial Consultation Council on Statistical Policy.



























































exploration, this being the front end investment. Any significant cut back in exploration means a lower rate of discoveries, lower production rates, lower revenues, including those of government and a further loss of self-sufficiency. This appears to be an undesirable outcome for everyone concerned.

16. Assuming that Canada has a comparative advantage in oil and gas as we believe it has particularly under present world wide energy conditions then a significant reduction in the industry's rate of development would have an adverse effect on Canada's growth prospects.

17. Any failure to reach self-sufficiency by 1988 increases Canada's need for crude imports already estimated to reach \$32 billion with the maximum rate of development assumed in the economic model. On an annual basis the cost of net imports would grow from \$.5 billion in 1975 to \$4.3 billion in 1980 and \$10.2 billion in 1988. Any cutback in oil and gas investments or delays in getting frontier production on stream will of course raise these amounts.

18. Given the strong competition Canadian manufactured goods face in international markets and the limited growth potential of Canada's other resource industries, the magnitude of the projected costs of crude oil imports is so great that it will likely have a serious adverse impact on Canadian economic growth and standards of living.

### PART III

Percy Baker

### SUMMARY OF RESULTS

1. Mr. Milne and Mr. Oostenbrink have outlined the basic assumptions, input data and approach used to analyze the economic and financial needs of the oil and gas industry. I will now provide you with an overview of the results.





immediately after the 1974 November 18 federal budget, industry would have realized a 3.0% DCF rate of return on the full cycle economics for existing reserves in the established areas. The industry was obviously in a desperate situation. Subsequent changes introduced by the producing provinces to fiscal arrangements in combination with incentive plans improved the situation considerably and the January 1st situation resulted in a 6.7% DCF return. The impact of the June 23 federal budget and certain additional modifications introduced by the producing provinces have been reflected in what we have termed the September 1 situation. Under this situation the DCF return improved slightly to 7.1%.

5. Analysis of the economics of finding new oil and gas reserves in the established areas, which we have assumed for purposes of analyzing fiscal arrangements to be all in Alberta, indicate a similar improvement since the November 18, 1974 situation. Our economic model results indicate full cycle economics of 9.4% DCF return under the November 18, 1974 situation, 11.4% under the January 1st situation, and 12.5% under the September 1, situation. The DCF returns are higher for new discoveries than for existing reserves due to the lower royalty rates which we assumed will apply over their full life, and because of incentive plans.

6. Based on the DCF return results, industry will not achieve a minimum 9% return on blowdown of known reserves. In view of this, it is felt industry will not have the confidence necessary to invest aggressively to find and develop new reserves even though acceptable rates of return are calculated for new investments.

7. I would ask you to bear in mind that different input assumptions with respect to costs and prices would change the economic results. For example, higher costs than



expenditures necessary to regain self sufficiency by 1988. If the price levels used in the model study are not achieved but are equivalent to \$2.00 per barrel lower, industry's cash deficit would increase to about \$20 billion.

11. The timing of the cash deficit is critical. Most of the deficit would be incurred over the next ten year period to significant increases in revenue generation from anticipated new discoveries. This is the period during which very aggressive exploration and development expenditures are required. Despite the dramatic increase in oil and gas prices, the level of government take has been such that the cash flow to the industry is inadequate to support the level of investment required. This points out industry's immediate need for a larger share of the revenue dollar from existing reserves, if it is to be expected to do the job of regaining Canadian self-sufficiency. While our study has been extensively discussed with governments, we believe the seriousness of this situation has been overlooked.

12. Industry needs to receive a larger share of the revenue dollar to improve the return of past investments thereby restoring investor confidence and to generate the cash necessary to finance future expenditures. Solution of this problem requires new and responsible assessment by industry and governments of the petroleum industry's economic and financial requirements.

13. Canada has the opportunity now to plan how it will meet its future oil and gas requirements. The merits of meeting these needs from domestic sources must be weighed in terms of the beneficial impact on the Canadian economy, and security of supply. Formulation of the appropriate plan presents both a challenge and an opportunity for Canadians.

Canadian Petroleum Association.





e. It was agreed to provide those provincial statistical agencies, which under the terms of the Statistics Act are eligible to receive confidential data, principal statistics by S.I.C. category, by province.

f. It was "Resolved - That the Consultative Council (under whose auspices the Committee functions) be informed of the acute provincial and federal interest in gaining access to individual respondents' returns, for the "mineral industry", which is viewed by these agencies as including activities upstream (e.g. exploration) and downstream (e.g. smelting and refining) of the mining industry as strictly defined by Division 4 of the Standard Industrial Classification.

- That if the increased access requested herein is not obtained, it be recognized the alternatives open to these agencies would include duplicate collection, with a substantial increase in respondent reporting burden.

- That the Council be requested to advise the Committee of its decision in this regard.

g. The provincial delegates were informed of a proposed fall meeting held to consider amending Statistics Canada's Employment, Hours and Earnings survey, and were requested to indicate if they wish to present views at such a meeting.

## II. REPORT OF THE TASK FORCE ON MINERAL VALUATION

a. Progress with non-integrated, non-ferrous base metal mines.

At the 1974 Provincial Mines Ministers' Conference the Task Force on Mineral Valuation was requested to finalize the design of a supplementary report form, which was to be









#### IV. ENERGY MINERALS STATISTICS

The subcommittee representative from Saskatchewan expressed the urgent need for standardization of monthly reporting forms for petroleum and natural gas production and disposition data at the individual well head. This need is immediate because of the current development of computer programs and the changes which will be required in the next two years by metric conversion. Work of this nature was formerly carried out by a working group under Committee No. 5 of the Conference (Petroleum and Natural Gas Committee) which has been discontinued. Statistical requirements similar to those which exist for petroleum and natural gas probably exist for the other energy minerals.

The recently established Energy Committee of the Consultative Council is the organization most logically concerned with these matters. Reports of the first meeting indicate that such problems would be handled expeditiously if brought to the attention of the chairman of that committee, who also acts as the chairman of the Minerals Committee.

#### V. WORK OF THE SUBCOMMITTEE AND RECOMMENDATION

The Subcommittee on Mineral Statistics has been made up of representatives both from government and industry from all interested provinces. In the past, interest and attendance at meetings has fluctuated widely and industry representatives have rarely been active. The Minerals Committee of the Consultative Council with its Working Party has been formed recently and will work on the technical aspects of gathering and disseminating data. To maintain the effectiveness of this committee and its Working Party in providing accurate and timely mineral statistics at the National level



FEDERAL-PROVINCIAL COMMITTEE ON  
MINERAL STATISTICS

TERMS OF REFERENCE

A. SPECIFIC

A Federal-Provincial Committee on Mineral Statistics shall be constituted.

1. It will concern itself with particular reference to the needs of users, and will review the present statistical programme in the mineral area with a view to:
  - (a) establishing priorities;
  - (b) identifying problem areas; and,
  - (c) facilitating an earlier solution to problems than is currently possible.

The committee shall be composed of the Director of the Manufacturing and Primary Industries Division, Statistics Canada, as Chairman, one delegate from the Canada Department of Energy, Mines and Resources, one delegate from the Canada Department of Indian Affairs and Northern Development, one Principal Delegate from each Province and Territory in Canada, one delegate from the Mines Ministers Conference and such other delegates as deemed necessary to provide adequate representation from the various provincial and private agencies dealing with mineral statistics in Canada.

The Committee will set up a Working Party to review the present programme in the mineral area and to develop an overall statistical plan for consideration by the main Committee. This work will include an















Exploration, Development and Capital and Repair Expenditures by Mining and Exploration Companies(1)  
Canada - by Type of Mining - 1973 Final

Dépenses d'exploration, de mise en valeur et d'immobilisations et de réparations par les compagnies minières  
et d'exploration(1)

Canada - par genre d'exploitations - 1973 dépenses réelles

	Capital construction — Construction neuve				Capital machin- ery and equip- ment — Machines et outil- lage neufs	Repair con- struction — Répara- tions à la cons- truction	Repair machin- ery and equip- ment — Répara- tions des machines et de l'outil- lage	Total capital and repair — Total des immobi- lisations et des répara- tions	Outside or general explora- tion(2) — Pros- pection générale "hors chan- tier"(2)	Land and mining rights — Terrains et droits miniers
	On-prop- erty explora- tion(2) — Pros- pection au chan- tier(2)	On-prop- erty develop- ment(2) — Mise en valeur au chan- tier(2)	Struc- tures	Sub- total — Total partiel						
millions of dollars — millions de dollars										
Total mines — Total — Mines métalliques .....	17.9	146.8	189.3	354.0	240.1	58.0	299.5	941.6	15.7	0.4
Id — Or .....	1.0	10.7	1.8	13.5	4.4	0.5	4.6	21.9	1.0	0.1
Iron — Fer .....	(3)	(3)	(3)	170.1	136.8	14.4	117.9	439.2	1.5	—
Copper-gold-silver — Cuivre-or-argent .....	6.2	45.9	26.1	78.2	64.9	12.9	83.0	239.0	6.2	0.2
Silver-lead-zinc — Argent-plomb-zinc ...	2.9	14.5	8.5	25.9	13.9	3.0	17.4	60.2	1.3	—
Other metals(4) — Autres métaux(4) .....	(5)	(5)	(5)	66.3	21.1	12.3	76.6	181.3	5.7	0.1
Non-metal mines — Total — Mines non métalliques .....	4.2	36.0	27.3	67.5	79.7	6.5	135.2	258.9	1.6	6.6
Asbestos — Amiante .....	0.2	20.9	7.1	28.2	21.5	2.8	39.8	92.3	0.1	(6)
Other non-metal mines(7) — Autres mines non métalli- ques(7) .....	4.0	15.1	20.2	39.3	58.2	3.7	95.4	196.6	1.5	(6)
Oil and non-metal ex- ploration co's — Compas- gnies de prospection générale .....	1.1	1.8	0.2	3.1	1.2	—	0.2	4.5	69.8	2.1
Mining — Total — In- dustry minière ...	23.2	184.6	216.8	424.6	321.0	64.5	434.9	1,235.0	87.1	9.1

These figures do not include outlays in the petroleum and natural gas industry (See Crude Petroleum and Natural Gas Industry, Catalogue No. 26-213, Table 6). Smelting and refining are included in the manufacturing industry (See Private and Public Investment, Catalogue 61-205 and 61-206, Table 3). - Ces chiffres n'incluent pas les déboursés de l'industrie du pétrole et du gaz naturel (voir, l'Industrie du Pétrole Brut et du Gaz Naturel, no 26-213 au catalogue, tableau 6). La fonte et le raffinage sont inclus dans l'industrie manufacturière (voir, Investissements privés et publics au Canada, no 61-205 et 61-206 au catalogue, tableau 3).

The totals for exploration and development include only field expenditures on physical work and surveys. Other published series for this activity may be at a higher level, because of the additional inclusion of other related costs such as applied administration, general overhead and lease rental costs. - Les totaux au titre de l'exploration et de la mise en valeur ne comprennent que les dépenses pour les travaux physiques et les levés sur terrain. D'autres séries publiées relatives à ces activités peuvent être plus élevées en raison de l'inclusion d'autres frais tels que les frais généraux et les frais de location.

Some data for iron mines are not shown due to the confidentiality clause of the Statistics Act. These figures are included in total metals. - La ventilation des dépenses en construction pour les mines de fer ne peut être faite à cause du caractère confidentiel de ces chiffres. Ils sont inclus dans le total des métaux.

Other metals include nickel-copper mines, silver-cobalt mines, uranium mines and all other metal mines. - Sont inclus dans "autres métaux": les mines de nickel-cuivre, les mines d'argent-cobalt, les mines d'uranium, et toutes les autres mines métalliques.

These data for other metal mines are not shown due to the confidentiality clause of the Statistics Act but are included in total metals. - La ventilation des dépenses en construction pour les "autres métaux" ne peut être faite à cause du caractère confidentiel de ces chiffres. Ils sont inclus dans le total des métaux.

The data pertaining to the purchase of land and mining rights in the asbestos and miscellaneous mining sectors are not shown because of the confidentiality clause of the Statistics Act, but are included in total non-metals. - Les dépenses faites pour l'achat de terrains et de droits miniers dans le secteur des autres exploitations ne peuvent être ventilées à cause du caractère confidentiel de ces chiffres.

Miscellaneous mining includes coal mines, gypsum mines, salt mines, potash mines, quarrying, sand and gravel and other non-metal mines. - "Exploitations diverses" incluent: les mines de charbon, les mines de gypse, les mines de sel, les mines de potasse, les carrières, les sablières, les gravières et toutes les autres exploitations non métalliques.









## SOCIAL

The items listed for discussion by Committee No. 3 included problems related to manpower, the environment, education and occupational safety and health.

1. Need for retention of existing subcommittees, and their relationship to the conference.

It was pointed out by the Chairman that currently, there is no subcommittee reporting to Committee No. 3.

There appeared to be general agreement with the suggestion that a subcommittee should not be formed unless there was ample reason for setting it up and, further, that there should be an annual review of the need for existing and proposed subcommittees.

Need for equal representation by Mining and Petroleum Industries to that of Government representation on task forces and subcommittees.

There was no consensus on the question of whether there should be equal numerical representation. Quality of representation and participation are regarded to be of greater concern. It appears that most felt there should be adequate opportunity for participation by all groups which might be affected by decisions resulting from subcommittee recommendations. Although subcommittees do not make final decisions they usually influence the course of events in their areas of concern.



developing a uniform environmental code for the Provinces and the Territories it was pointed out that the Federal Government Environmental Protection Service has drawn up a code for the mining industry. It was suggested that the Provinces should review this code and comment on its provisions. Seminars have been scheduled for discussion of the code at Sudbury, Banff and Montreal in October, 1975.

- 5 & 6. Labour - management relations and the employment problems.  
Status and plans for manpower surveys relating to mineral resources.

These two agenda items were discussed simultaneously because of their direct relationship to each other.

A representative of the Federal Government Department of Manpower and Immigration presented a progress report on the Federal-Provincial Mining Manpower Study that is underway (see appended copy of this report and of the "Overview")

The following resolution was passed by the Committee.

Whereas Committee No. 3 has expressed its concern for the large turnover in the mining work - force it is recommended that a Subcommittee be formed, composed of representatives from both levels of Government, as well as from Labour and Industry, to study the problem and to recommend possible solutions.









INDUSTRY REPRESENTATIONS

to

PROVINCIAL MINISTERS OF MINES

Tuesday morning September 16, 1975

The following organizations made representation  
to the ministers in closed sessions .

- . Canadian Petroleum Association
- . Independent Petroleum Association of Canada
- . The Mining Association of Canada
- . United Steelworkers of America
- . Coal Association of Canada





## Closing Plenary Session





CHAIRMAN - ED WHELAN

Will the meeting please come to order.

I wonder if we can have the report from Committee #1. Could we have the Deputy Minister from the province of Quebec, Dr. J. -E. Gilbert, come to the microphone please, to make a report for Committee #1. This is Dr. Gilbert.

J. -E. GILBERT

Thanks Mr. Chairman.

Mr. Ministers, ladies and gentlemen.

Committee #1 had a session yesterday afternoon and this morning. You all have in front of you probably, the agenda of the Committee and I am just going to summarize very briefly what happened during the discussions of this agenda.

Item #1 - Role of Committee #1. Nothing very special except that like in the previous years we, more or less, opened a discussion on the role that the committees were playing in the Mines Ministers Conference. Especially since the agenda have recently, that is within the last 2 years, changed quite a bit. That is we passed from strictly technical agenda to more or less a border basis of discussion.

Item #2 - Concerns the role of government in mineral exploration and development. We had background papers delivered by the vice-president of a well known mining company and a deputy minister of a western province. These two papers which were very interesting were followed by a good discussion, so good that everybody stayed more or less on this position





It was also agreed that the Chief Mining Inspector's subcommittee be retained and that ad hoc subcommittee on submission of exploration work be retained subject to the proviso that there be equal representation by industry and government on the subcommittee.

Also there was a resolution passed that another subcommittee be created so as to work out an agenda for Committee #1 in the future years.

It was also agreed that after discussion that it was advisable that all Chairmen of committees should be provincial officers. Then the conference is the provincial Mines Ministers Conference.

On subcommittees, it was moved, that the industry should have a fifty percent representation on all subcommittees, except for the Chief Inspectors of Mines' Committee which should of course stay as strictly as provincial organization.

It was also moved that the professional association should play a bigger role or most essential role in the subcommittees of Committee #1.

But of course it was agreed as usual that all final decisions rest with the Ministers.

Item #4 - Other Business. Dr. Arthur Darnley of the Geological Survey of Canada presented a brief report on the activities of the Survey, especially with respect to the uranium reconnaissance program.

Finally there was a discussion on the role of Committee #1. It was moved that the Deputy Ministers reconsider the scope, format and objectives of Committee #1 especially putting emphasis especially on discussions of broad philosophical and ideological issues or reporting



application. Now this subcommittee as proposed by Committee #1, I was told a few minutes ago that a somewhat similar proposal was made at the leading committee meeting of Committee #3 so we'll probably have to agree between ourselves as to who is going to recommend the creation of that sub-committee.

CHAIRMAN ED WHELAN

It is my understanding that the procedure has been in the past to move that a report of this sort be received and when the motion is seconded then its before you. Will you so move Doctor, that the report be received? J. -E. Gilbert - Yes, I do so move. Can we have a seconder from someone that is in the panel? Moved and seconded.

Can I have your name? - Jewett -Errol  
Its been moved and seconded, that the report be received.  
Is there anyone that would like to comment on that?  
Are you ready for the questions?  
All those in favor of the motion please indicate by the raising of your right hand. Those opposed please indicate similarly.

I declare the motion carried.

Can we have the report for the next Committee? The Deputy Minister for the province of Ontario Dr. J. K. Reynolds please come forward and give the report for Committee #2.

Thank You very much Dr. Gilbert.

This is Dr. Reynolds.





For New Brunswick this province is continuing to review the mineral resources legislation in an attempt to keep pace with changing needs of industry and society. A significantly altered Oil and Natural Gas Act and a new Pipeline Act are expected to go before the legislature in the fall of 1975. Consistent with policy objectives accepted by the provincial Ministers' the Quarryable Substances Act and Bituminous Shale Act are currently under revision while changes are being contemplated for the Mining Act and the Mining Income Tax Act. A preliminary draft of the Underground Storage Act is in preparation.

And then I think perhaps this is more for the general uniformity in allowable deductions. Newfoundland propose acceptance by all provinces of uniform deductability of a list of expenses for mining tax purposes. C. A. Perry of Manitoba undertook to convene a meeting of provincial mine assessors to review the proposal prior to the next annual conference.

Item two dealt with mineral economic research in Ontario and here the Ministry of Natural Resources has embarked on a series of economic studies to assist in the formulation of mineral policies. A pilot study on the impact of taxation and environmental controls was published earlier this year. Further studies are in progress to assure that policy changes do not adversely affect mineral sector, investment, employment, output and tax revenue. A summary of the research is given in Appendix 'C' and in Appendix 'D' are notes on the program of studies for your further consideration.

Item three dealt with resource inventory in Ontario









The principal areas of concern in Committee #3 include manpower, environment, education, as well as occupational safety and health. Under manpower there was an informative discussion of the problems with recruiting, training and retaining a mining work force. The petroleum industries experience of coping with drafting problems associated with isolated locations was enlarged upon by several speakers. A successful experiment with a shift system - and I think what is meant by shift system there is the rotational arrangement whereby work force would work for two weeks and then be taken off the project for two weeks and replaced by another one, the rotation took place in that manner in a permanent operation, which was described by one of the petroleum companies.

An innovative approach in some of the coal mines straddling the British Columbia, Alberta boundaries was also described. Although this is a relatively new concept results to date have been encouraging. The following resolution was adopted by the Committee.

"Whereas Committee #3 has expressed its concern for the large turnover in the mining work force it is recommended that a subcommittee composed of representation from both levels of governments and from labor and industry be formed to study the problem and suggest possible solutions." And this is similar almost the same as the resolution that has been passed by Committee #1.

Under occupational health and safety concern was expressed about the apparent sporadic nature of the emphasis placed on these matters by all the people who should be concerned. There is also an expressed need for defining responsibility between both levels of



Will someone that attended that committee meeting care to second the motion?

Its been seconded by Mr. Cook of Alberta.

Any discussion on the reports thats before you from Committee #3?

I'm going to call the question. All those in favor of a motion to receive please indicate.

Those opposed?

I declare the motion carried.

Last year at this Conference, so my notes say, at the instigation of the Hon. Roland Boudreau when he was in, as a result of a recommendation, Committee #3 there was instigated a mining manpower study by contacting the Hon. Robert Andres of Manpower and Immigration, Government of Canada. It is my understanding that a representative of the Federal Department of Manpower and Immigration is here in the audience who will give us a progress report on what is taking place and what they are doing as a result of the study that was instigated by the Committee and after the matter was raised by Hon. Robert Boudreau. Is Harry Morritt in the meeting and here, will he come forward please? This is Harry Morritt Federal Department of Manpower and Immigration, who is going to bring up to date on manpower studies.

HARRY MORRITT

Thank You very much.

Hon. Ministers and delegates. As the chairman has pointed out this study was requested by this group and a subsequent development was that an officer of my department attended the April 22nd meeting in Montreal with the provincial Deputy Resource Minister to discuss the proposed study, officials of EMR were also there. It was

noted at the meeting that Manpower and Immigration was already undertaking a study of manpower in the mining industry in connection with EMR is mineral policy review as one of the many of the studies that are being carried out. A draft of that particular report was to be ready for the fall of /75.

This research basically provides the national overview of some preliminary estimates of future manpower requirements and supply. However it was indicated by the Deputy Ministers and agreed that more indepth knowledge of problems would be required and particular attention in providing a provincial dimension and further research directed at investigating such questions as wage level, problems of northern mining communities, labour turnover, incentives to attract Canadians to mining occupation and so forth.

It was indicated and by our officers that while we would be interested in becoming involved in broadening the study of manpower it would have to be done on a Federal/Provincial basis since we don't have the knowledge or expertise to undertake such a study alone. We look for the full involvement of the provinces particularly the major mineral provinces and supportive industry and union. It was agreed that the first step would be to undertake a consultative exploratory stage which would make contact with provincial government as well as industry and union. Since my departments' work-  
ing contacts with the provinces are with the provincial Department of Manpower and Labor it was agreed that our liaison with the provinces would continue to be with these Ministry's basically. The provincial resource Deputy Ministers have kindly alerted their respective

















RECENT MANPOWER RESEARCH IN THE

MINING INDUSTRY: AN OVERVIEW

This report was made available to  
conference following Mr. Harry Morritt's  
report at the Closing Plenary Session.

Research Projects Group  
Strategic Planning and  
Evaluation  
Department of Manpower  
and Immigration  
September, 1975





## INTRODUCTION

This report follows negotiations between Federal and Provincial officials regarding the desirability and feasibility of a study investigating manpower problems currently being experienced in the Canadian mining industry. The suggestion for a manpower study originated at the Provincial Mines Minister Conference held last fall. It was generally considered important that someone at the national level assess manpower supply problems in the mining industry in consultation with both industry and labour. Subsequently the Hon. R. Boudreau of New Brunswick (resource minister) acting as a spokesman wrote the Hon. Robert Andras requesting Manpower and Immigration's participation in a study of manpower problems in the mining industry. The Minister agreed in principle with the need for such a study and indicated that M&I would cooperate in exploring the matter further.

Also, as a result of communications between Provincial officials it was agreed that someone from Manpower and Immigration would be attending the April 22 meeting in Montreal of Provincial deputy resource ministers to discuss the proposed study. Officials from the Federal Department of Energy, Mines and Resources (EMR) were also in attendance. It was pointed out at the meeting that Manpower and Immigration was already undertaking a manpower study of the mining industry in connection with EMR's Mineral Policy Review and that a draft report is planned for the fall of 1975. This research basically provides a national overview and some preliminary estimates of manpower requirements and



employees often possessing low skill levels. Some evidence suggests that a significant proportion of the quits among young unmarried workers tends to result from the perceived lack of appropriate social facilities. Among the married housing and related aspects tend to be the primary concern. Turnover tends to be most intense within the first six months of employment. In the background is the fact that mining is often considered to be a relatively undesirable, physically demanding type of work. More recently questions relating to occupational health and safety hazards have become an increasingly important factor.<sup>1</sup> In addition to the above factors, the general magnitude of the turnover problem is considered by some to depend on the economic cycle. Increased turnover might be expected during period of relatively tight labour market conditions.

Unfortunately, there is no currently or regularly produced figures on turnover in the mining and other industries. Thus it is somewhat difficult to make inter-industry or interprovincial comparisons of turnover on an ongoing basis.

On the shortage question, some evidence has been presented indicating that over the 1975-85 period a general manpower shortage in the mining sector can be expected. This deficit is expected to be particularly

<sup>1</sup> Considerable research is currently being undertaken on occupational health hazards in the mining industry, particularly on questions relating to silicosis and asbestosis. The overall impact which occupational health and safety conditions will have on the manpower situation in the mining industry is at present difficult to assess precisely. It might be mentioned that the Queens University Center of Resource Studies will be looking into this question as one of a series of studies investigating the impact of the mineral industry on the Canadian economy. The various research studies to be undertaken are outlined in broad terms in a subsequent section.





conducted to determine the level of mining industry turnover and the causes of turnover variations. Some of the major conclusions of the study were:

- turnover is most prevalent among young, unmarried employees. Increasing age and marriage makes employees more stable.
- mines with relatively high quit rates tend to pay higher wages than normal; result in greater use of Canada Manpower services, and exhibit lower average lengths of service. These factors are a result of the quit rate and not a casual factor.
- the estimated average cost per employee for responding to separations was \$184 for separations and \$428 for hirings.
- regional turnover rates in the mineral industry in Canada exhibit different seasonal patterns about similar levels of turnover.
- contrary to common belief, historical Canadian data shows that average turnover for mining was low relative to the average for all industries.<sup>1</sup>
- most mining communities have access to a complete range of community services.

The study by the Mining Association of Canada had among its objectives the collecting of data on the magnitude and possible cause of both the labour turnover and shortage problems in the Canadian mineral industries in 1974. The following constitute some of the more significant conclusions of the study:

- British Columbia experiences higher turnover rates than other provinces.
- the turnover problem is greatest among unskilled workers. Unskilled workers quit with twice the frequency of skilled miners.
- no strong relationship was found to exist between turnover and isolation/community services.

<sup>1</sup> MacMillan utilizes data from the DBS publication Hiring and Separation Rates in Certain Industries 1970-1984. However, this series was discontinued in 1966. The conclusions reached may not reflect the current situation in the mining industry vis-a-vis other sectors.



J. M. Cram<sup>1</sup> has investigated the reactions of mine workers to their environment. From the sample of miners surveyed in northern mining communities a number of conclusions were reached including:

1. miners expect a minimum standard of quality food, living quarters and working conditions (lower order needs)
2. a study recommends that management of mining companies seek ways to change the work environment so that workers can satisfy higher order needs (self-esteem, self-actualization)
3. miners generally felt that management and society in general regarded mining as an inferior occupation.

The studies referred to heretofore have focused on sample surveys of selected mining communities to provide information on manpower problems. On a national basis research has been undertaken by the Federal Department of Manpower and Immigration in conjunction with the Department of Energy, Mines and Resources as a integral part of the Mineral Policy Review.<sup>2</sup> This study basically provides a national overview, a draft of which is expected to be ready by this fall. The following is a rough sketch of the material covered:

1. A perspective on the Canadian Labour Market to Year 2000
2. Characteristics of the Mining Labour Force
3. Sources of Manpower, Recruitment and Training
4. The Mining Industry and Government Manpower Programs

1 Cram, J.M., "Differential Need Satisfaction of Mines Workers in Northern Canada", Canadian Journal of Behavioural Science, Vol. 4, No. 2, 1972.

2 Department of Manpower and Immigration, Manpower in the Mineral Industry (Study A-11, revised Policy Studies, Phase III)





world commodity markets. The authors indicate that at the industry level, Federal and Provincial Governments are concerned with the employment and public revenue impact of the mining sector. It is further pointed out that tax sharing and training decisions require an understanding of the cyclical and structural changes occurring in the mining industry. In addition, the authors noted that there are real labour shortages in the mining industry exacerbated by massive northern construction projects in addition to possible disincentives resulting from the UIC/welfare network. If sufficient labour is not forthcoming, greater reliance will have to be placed on capital stock accumulation. As a result additional skill requirements and training will be involved with possible ramifications for manpower policy. Finally, it should be noted that since the study is of a preliminary nature, no labor supply/demand projections were made and no consideration given to regional aspects.

#### LABOUR SUPPLY/DEMAND PROJECTIONS

In order to develop appropriate industrial strategies and modify or alter manpower programs, it is of considerable importance to have reasonably accurate estimates of the short and long-run demand and supply of labour in the mining industry. There are two major Federal government studies or projects dealing specifically with generating estimates namely:

- 1 In addition to the two programs referred to, demand and supply estimates are being generated in the Strategic Planning and Research Division (SPR) of the Department of Manpower and Immigration using econometric techniques. These estimates will be incorporated in the study by Manpower and Immigration for the Mineral Policy Review referred to earlier.



Survey, 1973 has been carried out by the Federal Ministry of State for Science and Technology (MOSST) in collaboration with Statistics Canada. The sample is derived from the 1971 census respondents who had a university degree. Besides cross-classification by personal attribute (age, sex, country of birth etc.), information relating to major field of study, industry and occupation will be available. This data set is expected to be used by the Department of Manpower and Immigration for occupational forecasts. A preliminary report on forecasting is likely to be ready by the end of this year.

#### RECRUITMENT STRATEGIES

Recently Cawsey and Richardson<sup>1</sup> have dealt with the nature of the turnover problem and the actions that firms in the Canadian mineral industries have taken or might take to reduce the magnitude of the problem. In the process they developed an employee recruitment and retention strategy. This strategy is seen to involve the following elements:

1. recruitment
2. short-term retention
3. long-term retention
4. community facilities planning

The authors emphasize that all four elements must be considered simultaneously in order to achieve a successful recruitment and retention strategy. They note, on the other hand, that very few firms take all aspects of the strategy into account. Their research consisted of interviews with eighteen executives of nine

<sup>1</sup> Cawsey T., and P. R. Richardson, A Study of Labour Turnover in the Canadian Mineral Industries, A report prepared for the Mining Association of Canada, April 1975.





## UNIVERSITY CENTRED STUDIES

With the recent establishment of the Center for Resource Studies at Queen's University, a number of studies will be forthcoming on various aspects of the impact of the minerals industry on the Canadian economy including research into manpower problems. Detailed research tasks will be contracted with investigators at Canadian universities. As a result of the wide scope of the study, many of the issues call for multi-disciplinary approaches. Seven primary areas have been identified:

1. Economic Linkages

Identify industries which are primarily and secondarily dependent on mineral products as major inputs, determine magnitude of forward linkages, evaluate the impact of the linkages in national, regional and sectoral terms.

2. Personnel

Determine employment levels in the minerals industry. Analyze wage and salaries of workers (national, regional sectoral categories). Examine manpower needs and availability for the mineral and related industries. Assess manpower mobility and retraining in Canada as it affects the availability of labour to these industries. Determine levels of employee health, safety and welfare in the minerals and related industries.

3. Local and Regional Impacts

4. Environmental Impacts

5. International Trade Patterns



Alcan Ltd., Report of the Study on Hourly Employee Turnover, Kitimat Works, 1974

Berry, D. et al., Mining Communities in Canada, Mineral Policy Series, (Preliminary), Department of Energy, Mines and Resources, 1975.

T. Cawsey and P. R. Richardson, A Study of Labour Turnover in the Canadian Mineral Industries, Report to the Mining Association of Canada, London, April, 1974.

J. M. Cram, 'Differential Need Satisfaction and Mine Workers in Northern Canada', Canadian Journal of Behavioural Science, v.4, 2, 1972.

O. Fisher, The Labour Shortage in Mining, a paper presented at the 77th Annual General Meeting of the Canadian Institute of Mining and Metallurgy, Toronto, May 4-7, 1975.

O. Fisher, 'The Labour Shortage in Mining', CIM Forum, April, 1974.

#### Government of Canada

- Department of Manpower and Immigration, Manpower in the Mineral Industry (Study A 11, Mineral Policy Review, Phase III).
- Department of Manpower and Immigration, Canadian Occupational Forecasting Program (COFOR). Ongoing project.
- Department of Energy, Mines and Resources, Mining Communities in Canada, 1975.
- Department of Energy, Mines and Resources, Mineral Area Planning Study (MAPS). Ongoing project.

J. A. MacMillan, J. R. Tullock, D. O'Brien, M. A. Ahmad, Determinants of Labour Turnover in Canadian Mining Communities, Research Project No. 19 (Winnipeg Centre for Settlement Studies, University of Manitoba, 1974).

J. A. MacMillan, 'Is Mining Industry Manpower Stability Possible?' The Canadian Mining and Metallurgical Bulletin, January, 1975.

J. A. MacMillan, Can Mining Companies Win Against Welfare and Unemployment Insurance Disincentives, paper presented to the British Columbia Industrial Relations Management Association Conference, Harrison Hotsprings, Feb. 1975.

J. A. MacMillan, D. O'Brien, and G. Gislason, The Canadian Mineral Mining Labour Market: A Preliminary Analysis, a paper presented to the 1975 Annual Meeting of the Mining Association of Canada, University of Alberta, June 4, 1975.





REPLY OF THE MINISTER OF NATURAL RESOURCES  
TO THE REMARKS OF MR. ALFRED POWIS,  
PRESIDENT OF THE MINING ASSOCIATION OF CANADA,  
AT THE 32nd ANNUAL MEETING OF THE PROVINCIAL MINISTERS  
OF MINES  
HELD AT SASKATOON, SEPTEMBER 15, 1975

The President of the Mining Association of Canada expresses concern about the medium and long term future of the Canadian mining industry. That is the impression I am left with after having heard Mr. Powis.

I understand also that the concern shown by the representative of the mining industry is a general apprehension of the private sector faced with the stance governments are going to adopt in the near future *vis-a-vis* "the management of our mineral resources", the theme of this conference.

Being a newcomer to this plenary meeting, in my capacity as Minister of Natural Resources of Quebec, you will permit me, I think, to be a little surprised to hear pessimistic remarks from an industry that, by definition, represents and must represent the most optimistic, the most confident, and even the most aggressive management in a country as rich in resources as Canada. This type of management, which I could call "high-risk management", is a characteristic that you have in common with the petroleum and natural gas industry, haven't you, Mr. Powis?

It would be to the advantage of the Canadian mining industry if it realized that, for the last 5 or 10 years, it has dwelled a little too long on the concerns and uncertainties to which it has regularly

called attention in its reports to the various governments. The sometimes troubling and often paradoxical, rapid evolution of a modern society like ours inevitably provokes perturbations and fears in all levels of an organized society.

To demand from a government clear policies, well-defined rules of the game, and the assurance of a non-interventionist political continuity in order to make secure the long term investments of the mining companies is to ignore the present political, economic, and social reality, and is to decline to share the collective responsibilities that our community must face with the same uncertainties.

As the President of the Association stated, we live in an era in which governmental involvements and interventions are more numerous. The mining industry wonders how far the government will go in its initiatives in the traditional environment of the private sector. In your opinion, gentlemen of the private sector, how far does the Canadian population want to go?

It is a point, I think, on which the mining industry and the delegates of the governments represented at this conference must agree. We shall have to face, during the next few years, important changes in the whole of our socio-economic structure. If our means prove limited to identify these changes and to plan our political and economic actions in consequence, we have available, nevertheless, numerous means to equip ourselves in order to face these changes.

The formation of a tripartite committee of experts from the two governments and from the industry,

as suggested by the Mining Association of Canada, for the purpose of increasing our understanding of each other and of creating the mutual confidence that we need, is one of these means. Given the fields of action of the existing governments and the modes and other procedures of inter-relation between these two governments and the industry, I shall not hide from you my preference for the formation, as a first step, of a bipartite group leading towards the establishment of better communications between the industry and the provinces responsible for the management of the resources.

You will recognize with me that institutionalized meetings between the industry and the government, by means of either a convention or a conference like the present one, have a limiting character even if one deals with far-reaching questions. Personally, I favour a system of continuous informal relations, at all hierarchical levels, between the industry and the government to work out solutions to our common problems.

In his talk, Mr. Powis mentions that governmental involvement or intervention is not an end in itself but only a means of realizing the desires of the population. Do you not believe that this reasoning could apply in the same way to the traditional role of private enterprise?

In a society in rapid evolution like ours, I find it a little rash to suggest that the optimum benefits that Canada can achieve from the present and future use of its resources will be obtained thanks to the continuation of the traditional role of the industry.

The Quebec Government considers private industry as the principal and currently the most desirable agent





Mister President of the Mining Association of Canada, this is my reply to the doubts you may harbour on the confidence we have in the management of the Canadian mineral industry.

The Minister of Natural Resources of Quebec

Jean Cournoyer



## RESPONSE BY THE PROVINCIAL MINES MINISTERS TO COMMITTEE RESOLUTIONS

In the past, the Provincial Ministers of Mines have considered the recommendations and resolutions arising from the Annual Conference at a meeting held approximately one month after the conference. After the Thirty-First Annual Conference this meeting was held in conjunction with the Federal-Provincial Ministerial Conference on Mineral Policy. The same arrangement was planned for the Thirty-Second Conference but the Federal-Provincial Ministerial Conference on Mineral Policy was delayed and finally cancelled. In order to expedite the finalization of the Thirty-Second Annual Conference, the Ministers were canvassed by mail.

### Committee No. 1 - Technical

1. *Resolution - Resolved that the Provincial Mines Ministers Conference is a good place to obtain industry viewpoint on the management of provincial mineral resources.*  
Agreed - one reservation - in camera meetings with industry associations concurrent to the committee meetings prevents the Ministers from playing a more active and visible role in the conference.
2. *Resolution - Due to increasing use of hydraulic fluid in mining machines underground and the consequent increased fire hazard and attendant risk to life, this committee recommends that all*





effectiveness depends more on the individual members than on the group they represent".

7. It was moved that the Deputy Ministers consider the scope, format and objectives of Committee No. 1, specifically should the emphasis be on:
  - (a) discussion on broad philosophical and ideological issues, or
  - (b) reporting and discussion on plans and changes of legislative and technical matters relevant to the various provincial jurisdictions.

Rejected - theme of conference and/or agenda items to be considered by committee will dictate approach to be taken.

#### Committee No. 2 - Financial and Statistical

1. Moved, that subcommittee (of Committee No. 2) on Mineral Statistics be discontinued, and that Dr. J. Fyles be appointed as the representative of the Provincial Mines Ministers Conference to the Minerals Committee of the Federal-Provincial Consultation Council on Statistical Policy.

Agreed.

#### Committee No. 3 - Social

1. Whereas Committee No. 3 has expressed its concern for the large turnover in the mining work-force, it is recommended that a subcommittee be formed, composed of representatives of both levels of government, as well as from Labour and Industry, to study the problem and to recommend possible

measures.

Agreed - comment - an investigation of this problem was initiated at the 31st Conference of Mines Ministers and the final report has not been received.



## POST CONFERENCE TOURS

Tours of four potash mines and mills were given Wednesday morning September 17, 1975. The mines visited were Cominco (Potash Division) at Delisle, Duval Corporation of Canada west of Saskatoon, Potash Company of America at Patience Lake and Central Canada Potash Company Limited east of Colonsay.

### COMINCO TOUR

Berg, Mr. & Mrs. C.	Sask.
Black, Peter	Sask.
Burton, John S.	Sask.
Carbonneau, Comme	Que.
Cook, Bob	Alta.
Cooke, Les	Alta.
Corman, Dale	N.B.
Day, Micheal	Alta.
Gemmell, Don	N.B.
Green, Hon. Sidney	Man.
Haugh, Dr. Ian	Man.
Holobuwich, Frank	Alta.
Karvonen, Mr. & Mrs. D.	Sask.
Lee, Mr. & Mrs. H.	Sask.
McCrodan, Peter	Ont.
McKay, Ted	Sask.
Fulford, George	Alta.
Perry, Charles A.	Man.
Pye, Ed	Ont.
Rogoza, Dennis	Sask.





POTASH COMPANY OF AMERICA

Burke, B.	Canada
Cheesman, Dr. & Mrs. R. L.	Sask.
Dumoulin, J. David	Canada
Fyles, Mr. & Mrs. Jim	B. C.
Groll, Mr. & Mrs. Art	Sask.
Higgs, Rick	B. C.
Horn, Hart	B. C.
Lusick, Duncan	Sask.
McKee, Mr. & Mrs. W.	Nfld.
McKillop, John	Nfld.
Matthew, Bob	B. C.
Olivier, Charles A.	Que.
Riley, Ray	Ont.
Ritchie, Burk	N.W.T.
Roper, Mr. & Mrs. J. J.	Man.
Ross, Mr. & Mrs. Bruce	Ont.
St. Onge, Victor	Que.
Smith, Dave	Sask.
Symons, A. J.	Canada

CENTRAL CANADA

Buzas, Mr. & Mrs. A.	N. B.
Bonus, John L.	Sask.
Bourgoin, Bert	N. B.
Coons, Mr. & Mrs. H.	Sask.
Costello, Bill	Ont.
Elver, Bob	Canada
Grove, Mrs. P.	B. C.
Hansuld, Dr. & Mrs. John	N. S.
Krentz, Sheila	Sask.



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### Office Equipment

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### Conference Office Staff

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Bonny Costea, Suzanne Kenny, Star Knowles, Sheila Krentz, Linda Martin, Lorraine Serool and Ken Stovin.

### Advance Registration and Conference Kits

The conference is indebted to the Department of Tourism and Renewable Resources and the Saskatchewan Government Insurance Office who provided much of the material included in the conference kits.

The effective registration of delegates is in no small part due to the advance registration work of Alice Kennedy, Sophie Lanz and Lil Mang.

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### Conference Dinner and Dance

Appreciation is expressed to Hugh Fraser who "piped" the head table guests into the banquet hall, to Scotty Gordon for providing background music at dinner and to the "Pippin Family" for the excellent dance music.

### Sponsors

The success of the conference in no small way is due to the following sponsors of special events:

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Canadian Petroleum Association  
Independent Petroleum Association of  
Canada  
Potash Corporation of Saskatchewan  
The Saskatchewan Mining Association  
Saskatchewan Mining Development  
Corporation  
Saskoil

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General Canada Potash Co. Limited  
Corbin Ltd., (Potash Division)  
Duval Corporation of Canada  
Potash Company of America

### Conference Transportation

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### Conference Proceedings

Transcribing and typing of these proceedings was performed by Sophie Lanz. French transcriptions and translations were provided by Dagmar Makohoniuk of the Department of Culture and Youth.















